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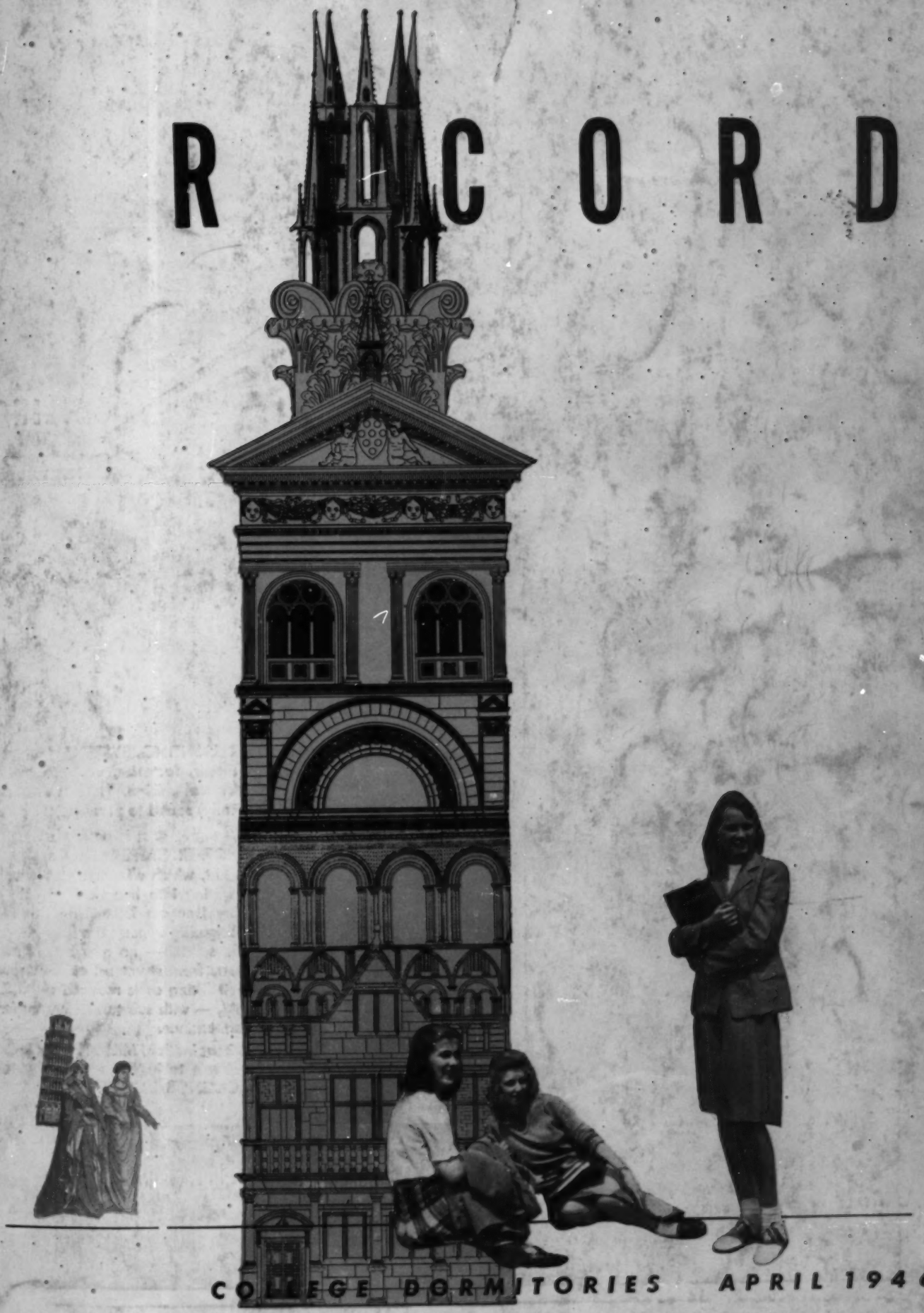
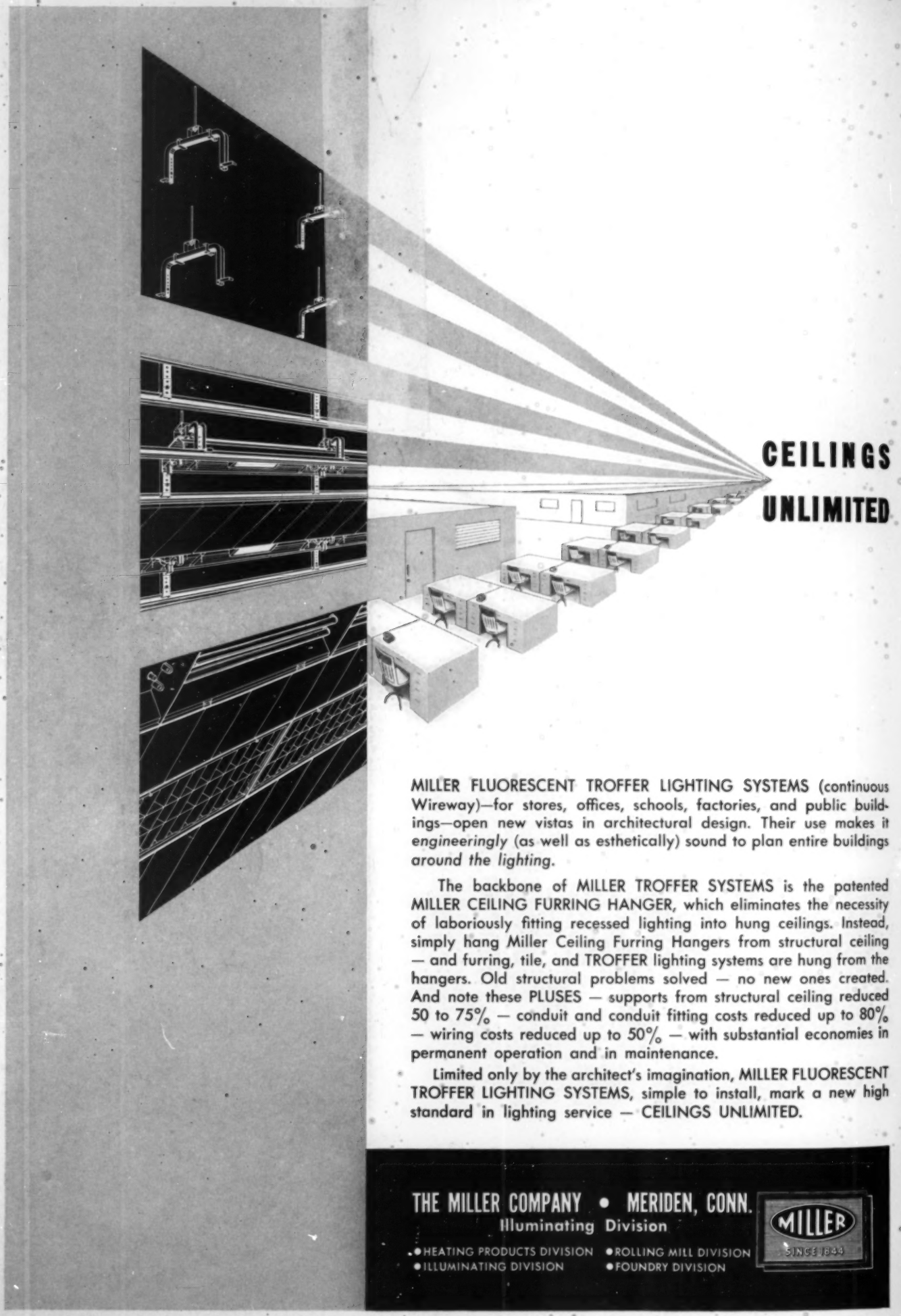


COLLEGE DORMITORIES APRIL 1946



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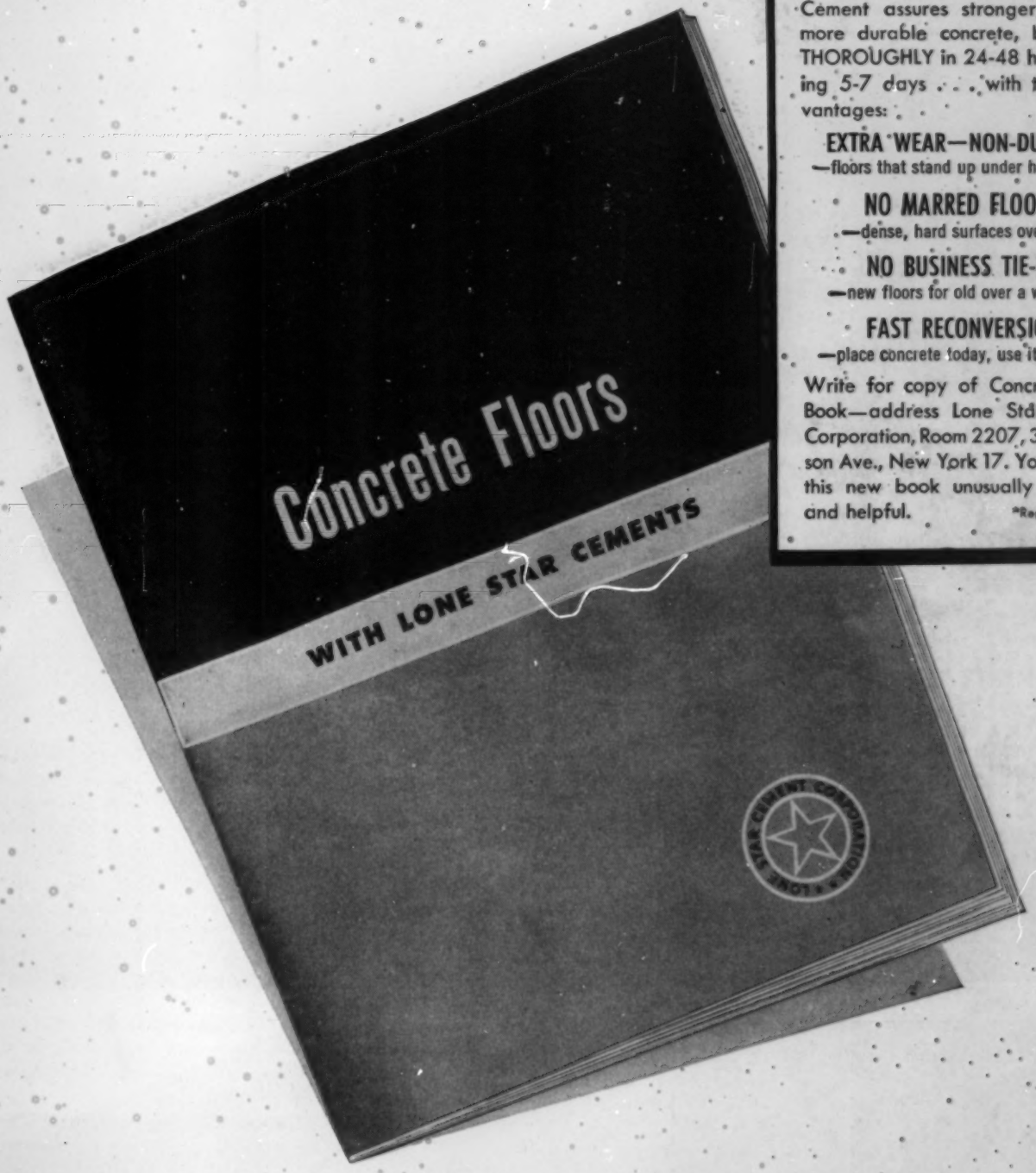

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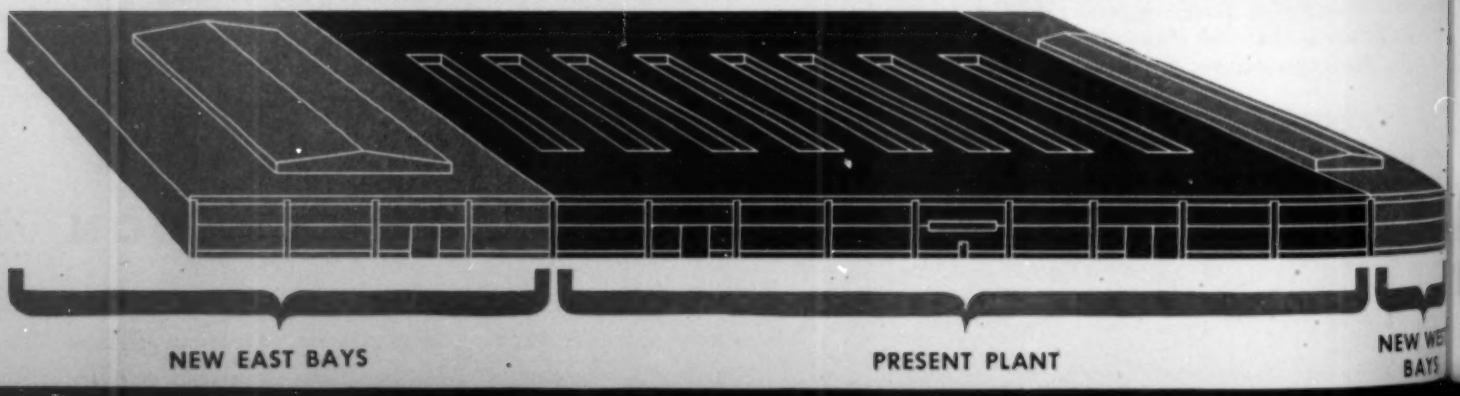

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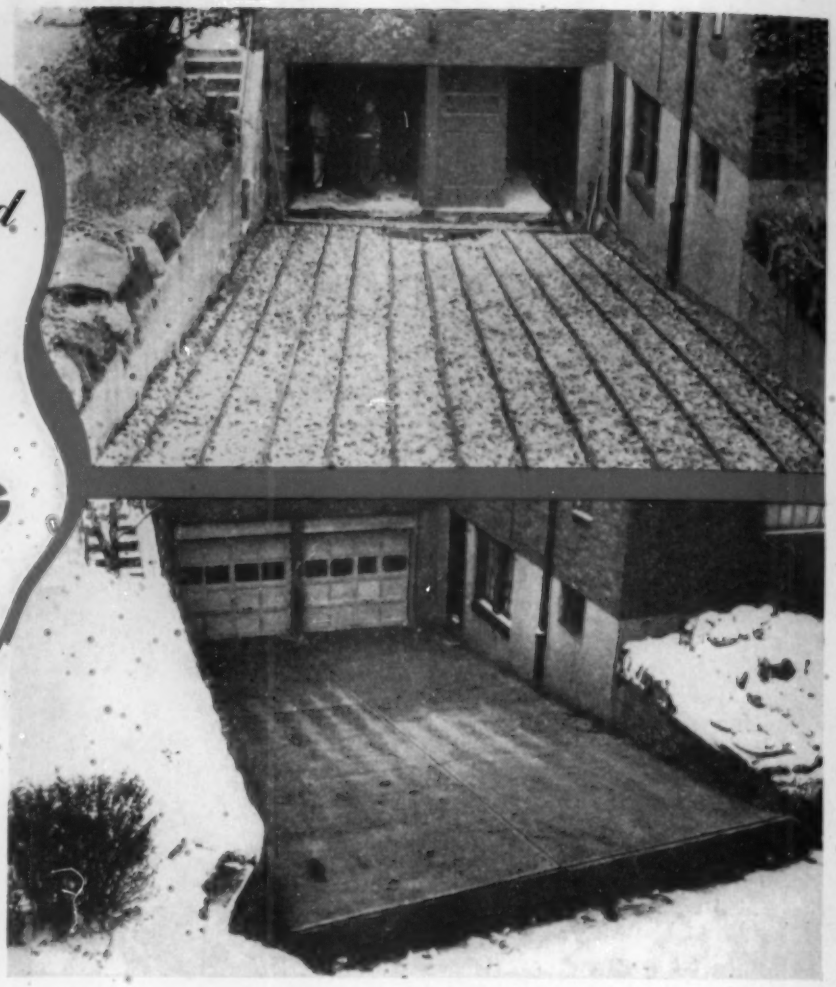

Here's something new in all-weather driveway ideas, that will eliminate sessions with snow-shovel, cinders and salt after every snowfall . . . and that every client whose garage driveway is on a grade will welcome. It's Byers Snow Melting.

In the driveway pictured the slope was 15°, and the lightest fall of snow would of course mean difficulty in getting cars in and out. A Byers Snow Melting installation completely solved the problem.

A 4-inch crushed rock fill was laid as a foundation, on which a grid of Byers Wrought Iron pipe was placed. This consisted of two 2-inch header pipes, with twelve lengths of 1¼-inch pipe running between them. A 2-inch supply main from the boiler runs through an insulated tile conduit to the top header, while a 2-inch return line taps the foot of the grid on the opposite corner. A fill-pipe is installed in an underground box with removable traffic plate at the highest point in the grid, and an air vent included at the same location. Water is heated by a gas boiler, and circulated by pump. Provision is made for draining, but since anti-freeze protects the system to −10°, this has never been necessary. Several heavy snowfalls have already given the installation some real service-tests, and not a flake has remained on the driveway.

This is only one of several such installations and owners have been uniformly enthusiastic. In one, a half-inch of ice was removed in 20-minutes, and a 15-inch snowfall in two hours . . . at an estimated cost of 60-cents for gas. Installations are currently on the boards or projected in loading platforms, sidewalks around metropolitan buildings, and airport runways.

Wrought iron plays an extremely important part in making a successful installation. Its rate of heat emission is high. It can be safely embedded in concrete, for it expands and contracts at practically identical rates with this material. It can be easily formed and welded. And it has unusual resistance to the corrosive conditions that are encountered.

Our Case Study No. 4, "Byers Snow Melting Systems," will give you some interesting information. Ask for a copy. And remember Byers Wrought Iron Pipe is available in quantity for any project.

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ARCHITECTURAL

RECORD

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THEY PAY FOR THEMSELVES IN THE WATER THEY SAVE

Watrous Flush Valves

THE RECORD REPORTS

All Washington Busy on Housing Problem • Wage-Price Policy Set • Lumber Ceilings Lifted • Construction Volume Forecasts Are Shifted • Wyatt Program Draws Fire

In these invigorating days of spring and approaching baseball, Uncle Sam has been knitting his brows over his own team in the 1946 building season. With Wilson Wyatt as his top-flight manager, he has drawn blueprints of strategy and mapped an unparalleled year for the nation's "spotlight" industry — but the going may be tough.

The city of Washington itself has been a beehive of preparation — from the White House to Capitol Hill to NHA. The whole governmental team, comprising every unit with any construction connections whatever, has been throwing its plays to fit the Wyatt Strategy. To cite a few examples:

Bureaus Aid Expediter

Civilian Production Administrator John D. Small, muscled with WPB's wartime powers, drew up regulations "drastically curtailing commercial and industrial construction work" and warned that "anyone who now starts construction runs the risk of not being permitted to finish the job."

He maneuvered the reopening of three blast furnaces and the stepping up of output among others to increase foundry products for housing as well as other critical public needs.

Some Programs Deferred

The Inter-Departmental Committee on Construction agreed to defer federal programs which would compete with housing for men and materials. It threw support to community facilities such as streets, sewers, waterworks and other utilities essential to new homes.

This over-all group — representing the Federal Works Agency, Agriculture, Commerce, Interior, the War Department and NHA — decided to restrict other federal activity to roads, flood control, reclamation and river-harbor projects.

General E. B. Gregory, of the War Assets Corporation, told Wyatt, in an official communication, that "an important step . . . would be . . . a program to utilize surplus plants in the manufacture of prefabricated houses." He suggested that "airframe plants are especially suited to this work because of their wide bays and high clearances."

FHA Sets Fee

FHA's Raymond M. Foley advised buyers to help combat inflation by using FHA-insured mortgage loans. He put into effect a policy of charging a minimum $10 fee for an appraisal under "conditional insurance commitments on new homes."

FPHA Commissioner Philip M. Klutznick reported the assigning of tens of thousands (the figure had surpassed 30,000 early in March) of surplus war housing units to cities and colleges to house veterans and their families, and told of the programs in the conversion and moving of tens of thousands of additional units.

Congress Gets Busy

Congress hustled along its housing ideas in the first days of spring, agreeing here and there with the Wyatt wishes, elsewhere tearing them to pieces and tossing them to the four winds. Biggest furore came over price ceilings on homes; question arose, too, over subsidies to speed the production of building materials. Many hesitated to see subsidies used even in an emergency.

Both the Patman Bill on emergency controls and the broad Wagner-Ellender-Taft National Housing Bill for a long-time program moved to the forefront of discussion.

Wyatt Marshals Forces

Meanwhile, Expediter Wyatt was swinging into the building emergency with a wartime tempo. He marshaled his forces and arranged his controls almost as rigidly and forcefully as the War Production Board had done before either Germany or Japan fell.

Even his personnel he stepped up into wartime fervor by packing them into an early morning mass meeting in a large Washington theater and advising them in detail of the task ahead, a "record-breaking job never done in history before." Many went back to increased working hours while the rest of the government departments continued to enjoy a five-day week.

Wage-Price Policy Set

Coincidentally, the Truman administration was fitting to specific industries and instances its new wage-price policy. Details weren't easy to work out and warnings elbowed their way into public attention along with detailed instructions and regulations.

To the building trades, the National Wage Stabilization Board issued the following official statement:

"Wage increases in the Building and Construction Industry which have not received the prior approval of the Wage Adjustment Board are still illegal and are still subject to the penalties prescribed by the Stabilization Act."

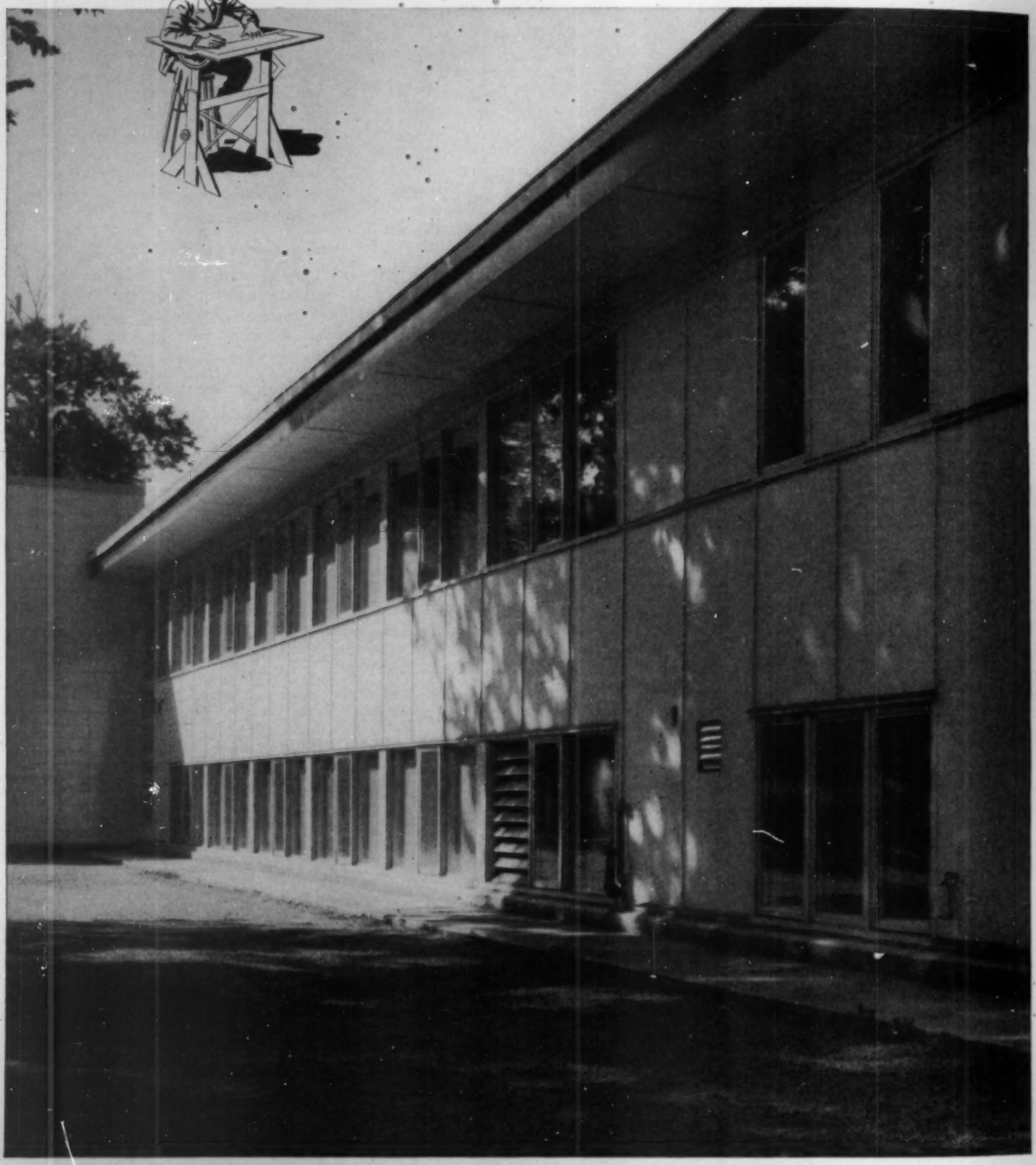
It was explained that direct wage control in this industry had been continued after V-J Day because of special infla-

(*Continued on page 10*)

"All I ask of our new United Nations neighbors is that they build according to the regional character of the community."

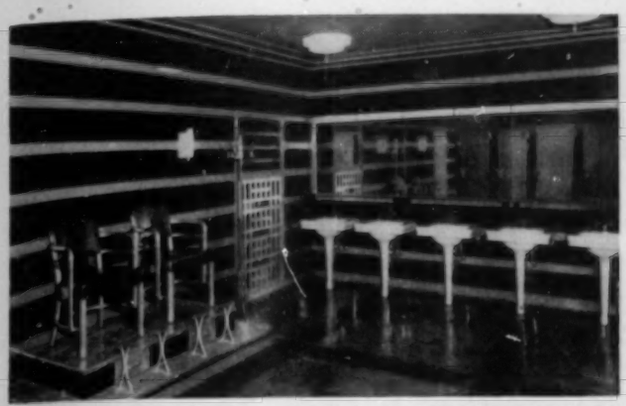
— Drawn for the RECORD by Alan Dunn

DESIGN POSSIBILITIES FOR PUBLIC

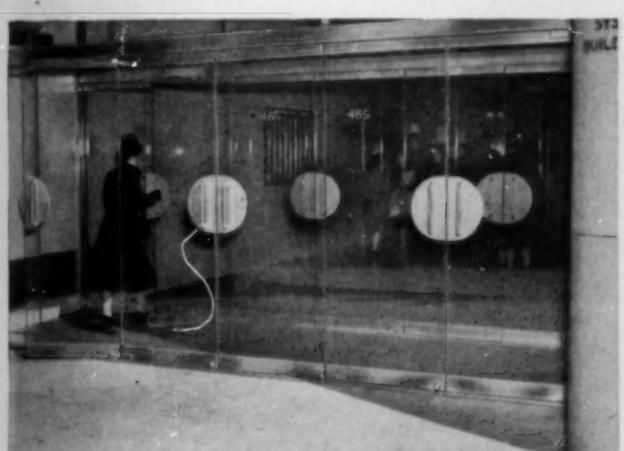


In the evolution of building design, fenestration has assumed greater and greater importance. Window areas have become larger, more functional. And the glass used to glaze them has become correspondingly more important. That is why so many architects rely on Pittsburgh Polished Plate Glass as a glazing material today. This glass assures windows of outstanding beauty and clarity for public buildings of all kinds . . . from clinics to recreation centers. Providing clear, undistorted vision and brilliant, polished surfaces, Pittsburgh Plate Glass is available in various types and colors to meet specialized needs. Architects: Elizabeth and Winston Close.

BUILDINGS...with *Glass*



Sanitation in public building washrooms is often determined by the material used for walls and partitions. Carrara Structural Glass is a modern material that permanently retains its polished beauty and excellent sanitary properties. It is easy to keep clean. It will not check, craze, stain, nor fade. It is impervious to water and pencil marks. Ten colors of Carrara are available to help the architect achieve attractive washroom designs. Architects: Marr & Holman.



Architects are finding many new design possibilities for entrances since the development of Herculite Tempered Plate Glass. Sturdy, handsome doors of crystal-clear Herculite help to create entrances that are distinctive and impressive. In the application shown, inner and outer doors are of Herculite, with an over-door panel of lustrous Polished Plate Glass.

Windows of many mullions are often a desirable element of design in large buildings. And Pennvernon Window Glass has consistently proved itself eminently satisfactory for glazing the many small openings that such mullioned windows present. Pennvernon has a degree of clarity, beauty and freedom from distortion exceptional in a sheet glass. And for this reason is well suited for use in buildings such as this hospital in Richmond, Va. Architect: Baskerville & Son.

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 (Continued from page 7)

tionary problems involved. The new wage-price policy did not change the situation.

That OPA ideas would gain rather than lose out in the over-all shifts in price policy was indicated when Chester Bowles was boosted into Collet's post as Stabilization Director. But Bowles knew that his course would be difficult since many close advisers to the administration held opposite views.

Lumber Ceilings Lifted

Paul Porter, after he took Bowles' OPA seat, went along with the Bowles policies. Interesting are some of the Agency's concurrent pricing actions. Effective February 25 was a "complete revision" of ceiling prices for prefabricated homes made mostly of wood. The change permits prices based on current material and labor costs instead of those in 1942, plus 36 per cent mark-ups for manufacturers and 10 per cent for resellers.

OPA got authority from the Stabilization Office, one of Collet's parting contributions, to allow an increase of $3.25 per thousand board feet in the average mill price of Southern pine lumber. Tied to production goals set by the Civilian Production Administration, the increase may be continued beyond August 15 if output for the first half of the year is sufficiently high.

It was at this time that OPA was working, too, on establishing mark-ups for direct mill shipments on Douglas fir, Western pine and other softwood lumber in order to improve distribution of construction lumber, particularly to small retail yards.

Other OPA changes: oak, pecan and miscellaneous hardwood flooring, 10 per cent increase in manufacturers' ceilings; plaster lath, a temporary four-month boost in ceilings of $4.00 per thousand pieces.

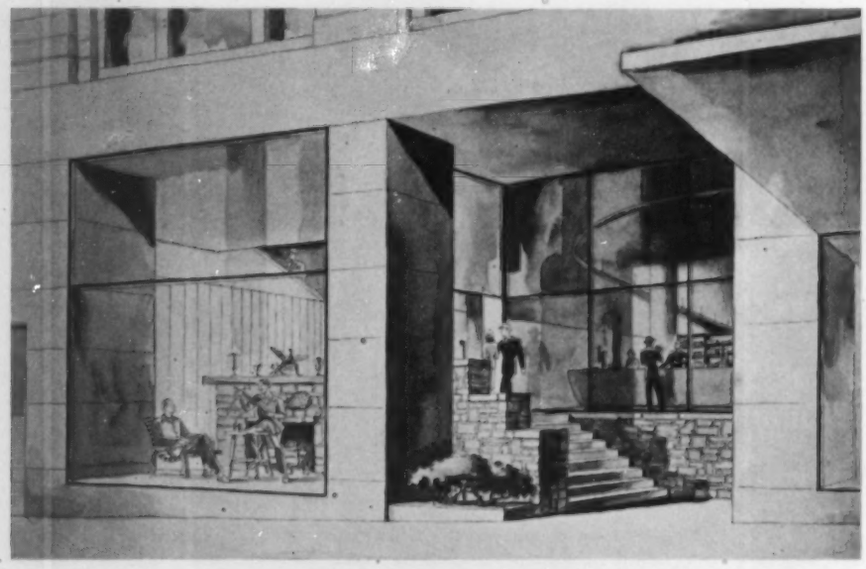
In anticipation of Congressional price control action, the OPA made ready a Building and Construction Price Division with Gordon Rieley, of Cleveland, as director.

"Expedient and maximum cooperation with the national housing programs" was cited as the purpose of the new division, which took over pricing of most building materials and of prefabricated building equipment. It controls lumber prices at the distribution yard level.

Federal Forecasts Shift

Impact of the Wyatt drive to defer industrial and commercial construction, with pointed attention to theaters, brought a readjustment of federal forecasts of construction volume for 1946. The Commerce Department's alert Construction Division, which earlier had estimated a $7.5 billion total, upped the figure to $9 billion and reshuffled the

(Continued on page 13)



A special entrance for the Men's Shop is planned by Frederick & Nelson, Seattle

NEW BUILDING

Store Modernization

Construction will be started soon on the first phase of the $5,000,000 building and modernization program of Frederick & Nelson, Seattle division of Marshall Field & Company. Architects are John Graham, Seattle, and Skidmore, Owings & Merrill, Chicago.

In the initial stage of the program, expected to take about two years to complete in its entirety, will be included the partial construction of the sixth, seventh and eighth floors, installation of wide escalators with special safety features, and new, fast elevators. Selling area on the main floor will be increased more than 20 per cent by the removal of the freight concourse from the first floor to the basement level. Filling in the light well on the north side of the building and removal of store offices to the new upper floors also will add several thousand feet of space on each floor.

Other improvements included in the first phase will be an entirely new lighting and ventilating system on the main floor. Later, lighting throughout the entire store will be improved and the ventilating system will be extended to other areas of the store.

Station Master's Office

A new three-story extension to the station master's office at Pennsylvania Station, New York City, has been completed.

The extension includes a public reception room, the station master's general and private office, other office space, wash rooms, utility rooms, control room, announcement board, and information booth. The exterior is finished in Tennessee marble, with ornamental details in bronze. Acoustical ceilings, asphalt tile floors and fluorescent lighting are used throughout. Architects were McKim, Mead & White, of New York City.

Projected new plant and headquarters offices for the Dr. Pepper Co. in Dallas

Factory and Office

Construction of a new $1,500,000 plant and headquarters office building for the Dr. Pepper Company (soft drinks) in Dallas, Texas, is expected to begin immediately. The four-story plant, containing 276,000 sq. ft. of floor space, will house the national offices, syrup compounding plant and all Dallas operations.

The contemporary design of the exterior will feature walls of stone and brick masonry with continuous horizontal bands of glass block. The entrance façade will be of Indiana cut limestone the front of the lobby a curved wall of thermoglass between spaced marble columns 22 ft. in height. Doors will be of aluminum and crystal glass. A triangular pylon tower 124 ft. high will have clocks set in three sides. Thomas, Jameson & Merrill of Dallas, are the architects; Inge Construction Co., the contractors.

The new Nesbitt "Package" for health, comfort and utility includes Nesbitt Syncretizer Unit Ventilators and Nesbitt Convectors integrated with steel shelving. School planners, architects and engineers can draw this modern classroom ensemble into their blueprints and write it into their specifications *today*. Nesbitts now make all the units of this complete "Package"—Nesbitt Syncretizer Unit Ventilators, Nesbitt Convectors and Nesbitt Steel Classroom Shelving Units.

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1. The durable steel shelving units (in various widths) are made by production line methods.

2. The fuel savings of "Syncretized Air" prove in most cases to be sufficient to pay, within a reasonable time, for the installation of Nesbitt Syncretizers.

If you have school building or modernizing plans on your desk, let us discuss with you the place in those plans for the Nesbitt "Package."

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Farmers Choose Electric Range
The results of a survey conducted by Country Gentleman reveal that among the upper two-thirds of white farmers, the Electric Range is the 2-to-1 choice.
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Electric Range is 2-to-1 Choice
The McCall's Magazine, in a contest conducted among its readers, discloses that the Electric Range is the 2-to-1 "must have" choice.
HOUSEHOLD
Demand Triples For Electric Ranges
A Household Magazine survey indicates that three times as many women want Electric Ranges as now have them.

Survey after Survey Shows Women PREFER

Electric Ranges

Wire Your Houses For Electric Ranges

PROOF of the overwhelming trend toward Electric Cooking is found in survey after survey made by such leading national magazines as *Woman's Home Companion, *McCall's, *Household, *Successful Farming and *Country Gentleman.

Women prefer the convenience, cleanliness, dependability and economy of modern Electric Cooking.

Cash in on this growing demand. Wire the homes you build for Electric Ranges. Built-in, the cost of such wiring is negligible — the selling power tremendous.

Electric Range Section, National Electrical Manufacturers Association,
155 E. 44th Street, New York 17, N. Y.

A-B STOVES • ADMIRAL • ELECTROMASTER • ESTATE HEATROLA • FRIGIDAIRE • GENERAL ELECTRIC • GIBSON • HOTPOINT • KELVINATOR • MONARCH • NORGE • QUALITY • UNIVERSAL • WESTINGHOUSE

FOR EASIER SALES

wire your houses

FOR ELECTRIC RANGES

THE RECORD REPORTS

(*Continued from page 10*)

amounts for each type. It boosted residential construction from $2.25 to $4.57 billion, sliced "non-residential private" activity from $3.45 to $2.85 billion, and public construction from $1.80 to $1.58 billion.

In working out its figures, CD assumed that in the non-residential category work already under way would not be stopped, that enough materials would be produced to meet unrestricted requirements, that construction costs would remain roughly at existing levels.

Store Remodeling Urged

Another unit of the Commerce Department advised owners of small and medium sized stores to draw plans now for modernization and remodeling so as to be ready when suppliers can fill orders.

New Credit Wrinkle

A new wrinkle in housing credit comes from Jesse Jones' old bailiwick — the Reconstruction Finance Corporation. That multi-billion dollar agency is extending its blanket participation agreement with banks (loan guarantee up to 75 per cent) to cover loans to contractors and other business enterprises interested in building residences.

News of this decision came as the Federal Home Loan Bank Administration reported that non-farm mortgage financing reached $5.6 billion last year, or almost $1 billion ahead of the 1941 post-depression high.

NHA Preparing Studies

The National Housing Agency, it should be noted, is preparing a series of studies on major issues in the transition from war to peacetime conditions in American housing. Bulletins already available touch on "Housing After World War I," on "Land Assembly for Urban Redevelopment," on "Housing Costs," and on "Housing Needs."

Reduction of costs is among suggestions put forth. Here is illustrative wording in two pertinent paragraphs from the "Housing Costs" bulletin:

"Although the reduction of interest rates, property taxes, and maintenance expenses are important in any consideration of ways to reduce the cost of owning or renting houses, by far the most effective way to reduce monthly costs of home ownership is to secure reductions in the capital cost of the house and land.

"The most promising area for attempting to secure substantial reductions in capital costs lies in the structure of the house itself. The structural enclosure of a house, including the foundation, walls, roof and floors, normally represents approximately 60 per cent of the total cost of house and land. Painting, plumbing, heating, electrical work, general contractor's overhead, and land make up the remainder. A comprehensive approach to cost reduction requires that every effort should be made to reduce the cost of each of these items, however small."

PREFABRICATION

New Corporation

Formation of a new corporation to design, manufacture and distribute completely equipped factory fabricated houses at erected prices to the owner ranging from $4,997 to $5,891 has been announced by Donald Deskey, industrial and architectural designer.

The new corporation, Shelter Industries, Inc. (630 Fifth Ave., New York 20, N.Y.), has already started production in its East Coast manufacturing facilities, and volume production is expected to make houses available at the rate of 200 per month before the end of the year. Present expansion plans are intended to enable the company to produce at the rate of over 26,000 houses in 1947.

The houses are designed to incorporate the new central utility unit which is being manufactured by the Ingersoll Steel Division of Borg-Warner Corp. (see p. 162). Also featured is the use of Weldtex, a striated plywood designed by Mr. Deskey and developed in collaboration with the U. S. Plywood Corp.

How Many Prefabs?

Shortly before Wilson Wyatt made public his program calling for 850,000 permanent prefabricated homes in 1946 and 1947, *Prefabricated Homes* completed a survey of leading prefabricators to ascertain their estimated 1946 production total. According to the results, 37 prefabricators alone expect to produce about 131,175 houses in 1946, and after 1946 the majority of prefabricators expect to double or treble annual production. Of the 41 prefabricators who stated the price range on their houses, the largest grouping is within the $2,000 to $3,500 classification. The survey also indicates that the majority of prefabricators will market their houses through dealer organizations, intend to assume responsibility for erection of houses, and will deliver the houses to the site in panel form.

WHAT THEY SAY . . .

About the Wyatt Program

"We believe . . . it will be a serious mistake to devote an excessive share of construction facilities to the production of housing; for this will inevitably result in a lack of places of employment, schools, hospitals and community facilities which will seriously interfere with job opportunities and the welfare of the veteran and

(*Continued on page 16*)

The demand for Electric WATER HEATERS is GROWING FAST

Sharp Upward Trend Will Continue

In the 6 prewar years, sales of Electric Water Heaters almost tripled. And a 1943 contest conducted by McCALL'S MAGAZINE shows that 2.4 times as many women wanted Electric Water Heaters as now have them. They're "what women want," because they're:

SAFE—Flameless, fumeless.

CLEAN—Smokeless, sootless.

ADAPTABLE—Permit short hot water lines—Require no flue or vent.

TROUBLE-FREE as electric light!

ECONOMICAL—The cost is low for plenty of hot water all the time.

Installing Electric Water Heaters in every house you build, means giving women *what they want!*

Electric Water Heater Section
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

ADMIRAL · B&F · CLARK · ELECTROMASTER · FOWLER · FRIGIDAIRE · GENERAL ELECTRIC · HOTPOINT · HOTSTREAM · KELVINATOR · MONARCH · NORGE · PEMCO · REX · RHEEM · SELECTRIC · SMITHWAY · THERMOGRAY · THERMO-WATT · UNIVERSAL · WESTINGHOUSE

A House Wired For An Electric Range Is Already Wired For An Electric WATER HEATER!

Adlake Aluminum Windows offer many advantages for so little more. Elimination of excessive air infiltration, finger-tip control, no warping or sticking—thanks to an exclusive combination of nonmetallic weatherstripping and serrated guides. What's more, they're beautifully designed for lasting architectural appeal and efficiency. We believe you'll find it well worth while to get full information about Adlake Windows before specifying or detailing *any* window.

THE ADAMS & WESTLAKE COMPANY

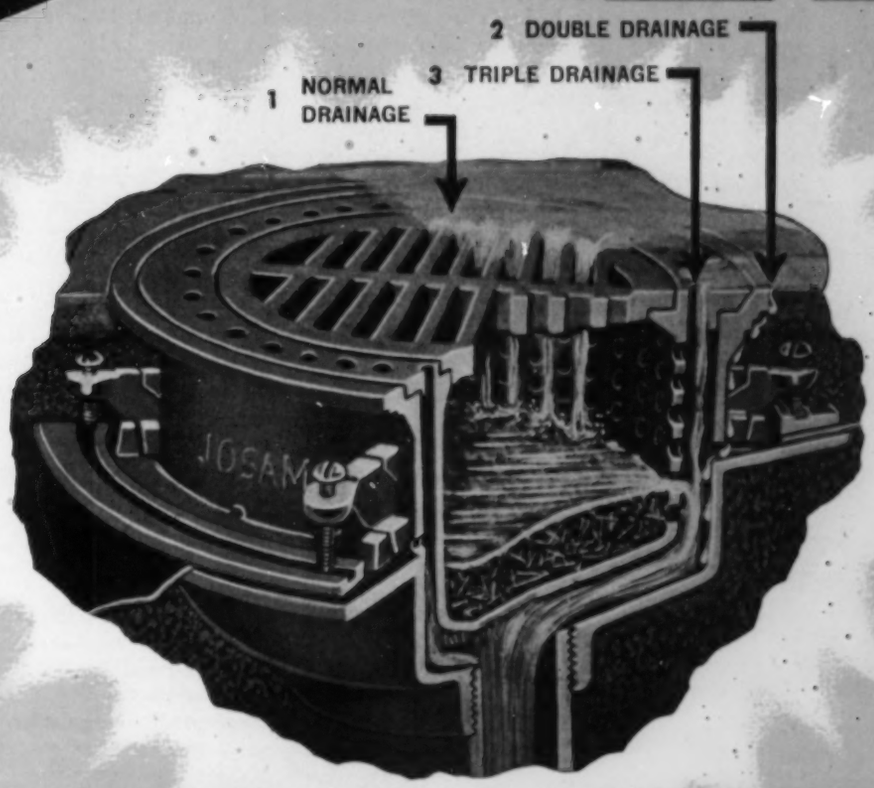
ALSO WINDOW MAKERS TO THE TRANSPORTATION INDUSTRY

ESTABLISHED 1857 **ELKHART, INDIANA** *NEW YORK • CHICAGO*

WHEN *Drainage* GETS A BUILDING *by the Throat*

When the waste lines of a building become clogged because of inadequate or faulty drainage, its life is *choked off*. Water supply must be stopped... tenants are inconvenienced... damage occurs... and an expensive repair operation is often required to restore the building to normal. To prevent this from happening, specify Josam Non-Clog Triple Drainage Drains. Their exclusive features shown below provide for uninterrupted drainage... a safeguard against clogged drain lines. Why take chances when the drains cost so little compared with the investment in a building? Specify the best—Josam!

PLAN FOR *constant* ACTION ...ONLY Josam NON-CLOG TRIPLE DRAINAGE DRAINS PROVIDE THIS *Exclusive Protection*



Exclusive "three-way" performance not only assures continuous, uninterrupted floor drainage in spite of accumulated debris, but also positive protection against leakage. Sediment container intercepts debris, allowing clear water to flow into drain line (normal drainage). If water seeps into floor around drain, it is returned directly into drain line... does not spread into floor or walls (double drainage). Even if sediment container becomes filled with debris, drainage continues through holes in auxiliary rim, signalling need for cleaning (triple drainage). Another exclusive feature is that the strainer fits into the sediment bucket. After being cleaned, sediment bucket *must be replaced*, otherwise strainer will not fit into place... a positive safeguard against carelessness in cleaning! For complete information on the many types of Non-Clog Drains send coupon below.

JOSAM MANUFACTURING COMPANY

Executive Offices, 302 Empire Bldg., Cleveland 14, O. • Manufacturing Division, Michigan City, Ind.

Representative in all Principal Cities

Josam PRODUCTS STANDARD OF AMERICA

JOSAM-PACIFIC CO., 765 Folsom Street, San Francisco, California
West Coast Distributors

EMPIRE BRASS COMPANY, LTD., London, Ontario
Canadian Distributors

FURTHER INFORMATION FREE

JOSAM MANUFACTURING CO., 302 EMPIRE BLDG., CLEVELAND 14, OHIO
Send me complete illustrative details on Non-Clog Triple Drainage Drains.

Name_____

Firm_____

Address_____

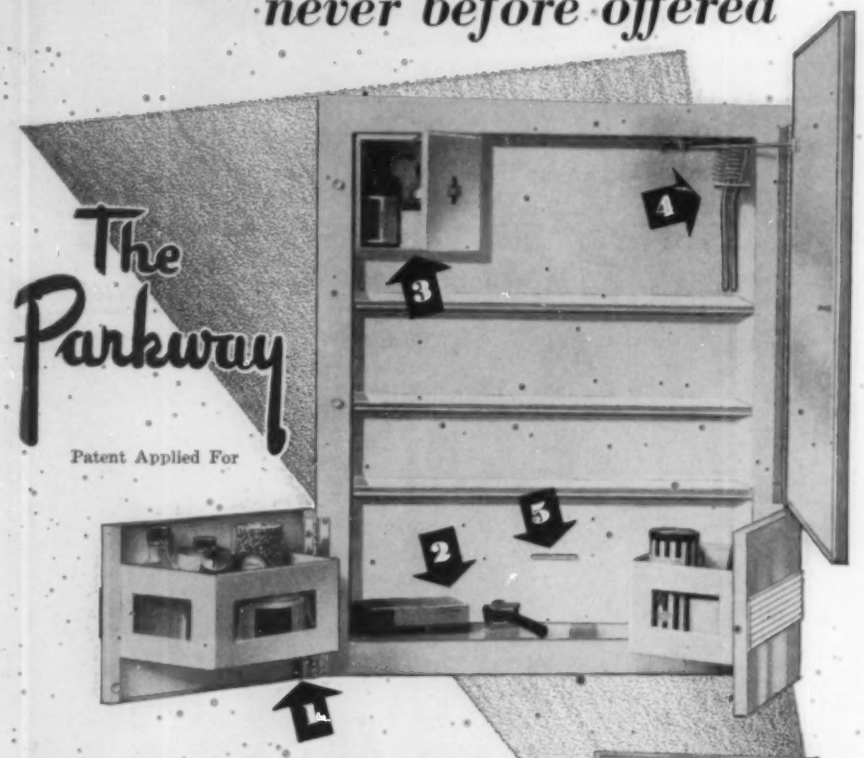
City_____ State_____

See our Catalog in Sweets'. *Member of the Producer's Council*

Faries De Luxe

A New Bathroom Cabinet

with important features never before offered



1 Two Personal Compartments for every day needs.

2 Utility Shelf, for cosmetics or shaving equipment when in use.

3 "Safe-T" Compartment, for poison drugs and other adult items . . . out of reach of children. Opens by pressing button on top of cabinet.

4 Tooth Brush Holder, inside the cabinet.

5 Razor Blade Disposal.

Overall dimensions, 19"x24"; wall opening 16½"x20½"; mirror size 18"x19"; shipping weight, 33 lbs.

The Parkway has adjustable glass shelves, full-length piano hinges and a No. 1. polished plate mirror in chrome frame. The bonderized all-steel cabinet is zinc-coated, finished in white baked enamel; swinging panels, chrome with white enamel trim.

New home builders will appreciate the exclusive features of the Parkway. It is in perfect harmony with today's beautiful bathrooms. For remodeled homes, it's a tonic for jaded bathrooms.

Include the Parkway in your designs today for the homes of tomorrow. Circular and prices on request.

Faries Manufacturing Company
DECATUR, ILLINOIS

THE RECORD REPORTS

(*Continued from page 13*)

his family." — *The American Institute of Architects.*

". . . the proposed program would obstruct and hinder the building construction industry in the United States by preventing labor and material from being used in any type of building except housing and by throwing out of work a large number of veterans who are building construction men and shop workers . . ." — *Board of Governors, New York Building Congress, Inc.*

"The only way to insure the necessary increase in the output of scarce materials and equipment needed for home building is to make adjustments in price ceilings. . . . Under the premium-payment subsidy plan, the manufacturer would be faced with the fact that every increase in efficiency would be accompanied by the risk of having the subsidy reduced or removed, thus giving him no reason to strive for lower costs." — *Douglas Whitlock, The Producers' Council, Inc.*

"There are two paths to take in making housing available to veterans. Putting the subsidy into brick and nails is one. It will result in a distortion of the whole housing economy, in the attempt to keep housing below the advancing price levels of the rest of the economy. The other path is to recognize candidly that there is a high price level and that there will continue to be as long as there is deficit spending by the government. The direct course to follow, then, is to help the veteran directly to meet the price level. . . . The subsidy should be in the form of a credit which . . . could be used as part of the down payment on a home or issued as certificates to pay a portion of rent over a period of time." — *National Association of Real Estate Boards.*

ARCHITECTS FOR UNO

The American Institute of Architects has announced a committee of 16 leading architects to assist in developing means of obtaining the finest talent the profession can produce throughout the world to design the new UNO capital.

Eric Gugler of New York City heads the committee as chairman. Members include: Richard M. Bennett, New Haven, Conn.; Thomas H. Locraft, Washington, D.C.; Wallace K. Harrison, New York; Charles D. Maginnis, Boston, Mass.; Ralph Walker, New York; William W. Wurster, Cambridge, Mass.; Howell Lewis Shay, Philadelphia, Penn.; Louis La Beaume, St. Louis, Mo.; Burnham Hoyt, Denver, Colo.; Eliel Saarinen, Bloomfield Hills, Mich.; Alfred Shaw, Chicago, Ill.; Moise H. Goldstein, New Orleans, La.; Russell T. Pancoast, Miami Beach, Fla.; David C. Allison, Los Angeles; Roi L. Morin, Portland, Ore.

(*Continued on page 18*)

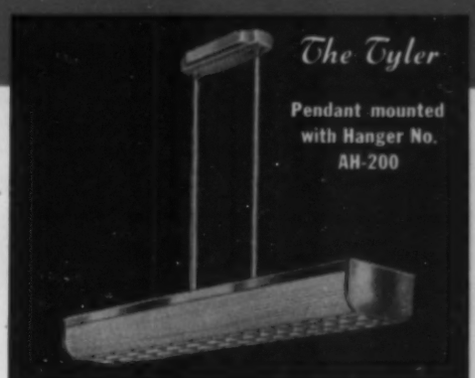
The Presidential Series — Pittsburgh Permaflector Fluorescent Luminaires

Designed and ENGINEERED for Maximum Efficiency

All Presidential Luminaires are available in two, three and four lamp units utilizing 40-Watt, T-12 fluorescent lamps. For surface or suspension mounting —individually or in continuous row.

The Tyler

Curved *Skytex* glass side-panels in a satinol finish give *The Tyler* a distinctive appearance; hinged egg-crate louver bottom assures well-shielded, illumination.



The Tyler, one of a series of Pittsburgh Reflector Company's new Fluorescent Luminaires, is especially designed to meet the requirements for a highly efficient and flexible luminaire adaptable to a wide range of applications.

The Tyler and its companion units, *The Wilson, The Jefferson, The Madison* and *The Van Buren,* are outstanding fluorescent luminaires . . . but they represent only a small segment of the diversified line of Fluorescent and Incandescent Lighting Equipment designed by Pittsburgh Reflector Company to meet *every* lighting requirement—interior and exterior . . . commercial, industrial and institutional.

If you want up-to-date illumination, take full advantage of the "planned lighting" possible with *Pittsburgh Permaflector* Equipment. Your nearest *Permaflector* Lighting Engineer will gladly give you every assistance in choosing the best lighting for your needs. And remember—*Pittsburgh Permaflectors* are simple to install, easy to maintain and provide maximum lighting efficiency . . . as well as flexibility of application.

OUTSTANDING FEATURES

- Die-formed all-metal parts for precision fit, maximum rigidity and strength.
- Egg-crate louver bottom hinged for easy accessibility.
- Reflecting surfaces sprayed with heat-resistant, baked-on white enamel permanently bonded to steel base.
- Light distribution controlled by reflector. Reflector easily removed for access to wiring channel.
- Lamp holders securely mounted, on heavy gauge support brackets.

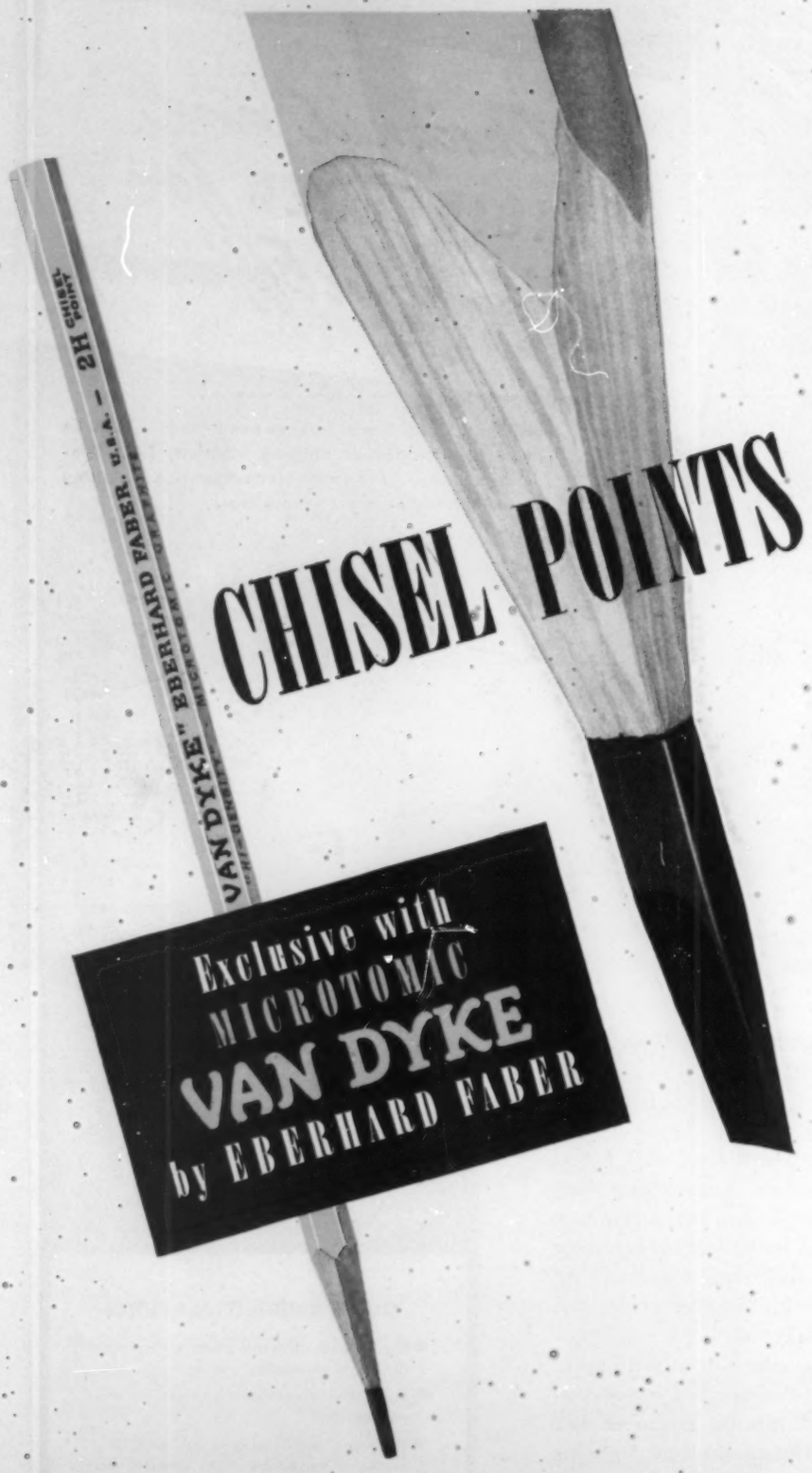
"Pittsburgh" Permaflector

Pittsburgh Reflector Company

OLIVER BUILDING • PITTSBURGH 22, PA.

MANUFACTURERS OF PERMAFLECTOR LIGHTING EQUIPMENT
DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE

Permaflector Lighting Engineers in All Principal Cities



IDEAL for large dimension tracing sheets calling for extra long lines of unvarying width. Rectangular-shaped, HI-DENSITY Lead sharpens to a super-efficient chisel point that delivers greater line production between repointings. Test this exclusive EBERHARD FABER time-saver at any accredited "Van Dyke" Dealer.

Chisel Point Leads come in degrees: 6H, 4H, 2H, HB, 2B, 4B. Round Leads in 18 degrees from 9H to 7B.

THE RECORD REPORTS

(*Continued from page 16*)

AID FOR VETERANS

Industrial Design

The Society of Industrial Designers, Room 672, 55 W. 42nd St., New York 18, has inaugurated a program of aid to veterans interested in preparing for the field of industrial design. Veterans wishing guidance and information concerning the field are invited to talk with the executive secretary and to consult the large collection of university catalogs which the Society has assembled. In addition, a simple job placement program has been established for veterans who feel qualified for immediate positions in the field.

Construction Industry

The Committee on Opportunities for Veterans in the Construction Industry has issued a booklet, "Opportunity Unlimited," outlining the industry as a whole and its component parts. Specific information on qualifications for the various fields, such as architecture and engineering, apprentice training, salaries, sources of information, and government benefits, are included. A separate chapter is addressed to the employer.

A similar booklet, "New Career Opportunities in the Building Industry," has been issued by the Johns-Manville Corporation.

Air Conditioning

To meet the need of a thorough educational program in engineering, production, sales, service, and factory management for its employees and for its returning veterans, York Corp. has opened its Institute of Refrigeration and Air Conditioning, a school with a potential capacity of 1,000 students annually. It will provide courses ranging in duration from a five-year cooperative engineering course run in conjunction with Pennsylvania State College, to a two-week "refresher" course.

LIBRARIES NEEDED

A nation-wide campaign looking toward restoration of engineering libraries in war-devastated areas overseas has been announced by The American Society of Mechanical Engineers through its Committee on International Relations. An appeal has been issued to engineers throughout the country to assist with gifts of technical books and periodicals to replace those lost or destroyed. Donations of money will be used to buy new books for foreign technical libraries.

Supporting the movement besides the A.S.M.E. are four other national engineering societies: American Society of Civil Engineers; American Institute of Mining and Metallurgical Engineers;

(*Continued on page 136*)

The light steel Junior Beams are easy to place. They are spaced by a spreader board which has been cut to the correct width for four eight-inch form boards.

Underside of forms showing how a fire stop is provided by form at the wall. Form lumber is salvaged and used for roof sheathing.

Increase your profits and selling points!

Many builders find they can increase the profits on their houses by installing J&L Junior Beam steel and concrete floors. Compared to conventional floors the extra cost will be slight but the elimination of return trips to repair plaster cracks, trim sagging doors and stuck windows more than makes up the difference. This non-shrinking floor is simple to install and your prospect can quickly see the advantage of the vermin proof, termite proof, fire resistant, rigid floor which also provides a clean, neat basement ceiling.

JONES & LAUGHLIN STEEL CORPORATION

PITTSBURGH 30, PENNSYLVANIA

J&L STEEL

N.A.H.B. dinner speakers: Joseph E. Merrion, retiring president; Frank W. Cortright, executive vice president; Robert P. Gerholz, toastmaster; Wilson Wyatt, Housing Expediter, guest speaker; Joseph Meyerhoff, incoming president

"ALL WE ASK IS MATERIALS," SAY HOME BUILDERS IN CONVENTION

"Give us the materials, and don't worry about anything else in the housing program." Thus did some seven thousand delegates to the convention-exposition of the National Association of Home Builders express themselves through a busy week of exhortation and discussion of the Wyatt housing program.

This simplification was not so much an official pronouncement as a ground swell of builders' reaction. Even a master selling job by Wilson Wyatt, housing czar, did not materially change their plea, though his persuasive address did win them to a much more sympathetic consideration of his various expedients.

The burning desire for materials and equipment was plainly evident in the exhibition, where 150 manufacturers showed their offerings at the Chicago meeting. There was wistful wishing on both sides — the builders wishing they could get immediate deliveries, the exhibitors wishing they could promise them. And if Mr. Wyatt stole the show in the auditorium, the center of attention in the exposition rooms was the Ingersoll mechanical core which incorporates heating plant, bath, kitchen and laundry facilities in one prefabricated unit. This was certainly the most advanced of the technical developments on display. If anybody had had any expectations of seeing many "exciting" new materials and push-button wonders, he would have been disappointed, but few of the builders showed any concern about it — they just wanted to procure basic necessities of building. In any case, it was evident that there isn't time or inclination to change materially the technology of building houses.

An architect might be pardoned for a feeling of disillusionment at the drawings showing the houses that the builders propose to construct as soon as materials become available. While these houses showed some improvement over previous years in planning and mechanical layout, the expression of the buildings in architectural terms was disappointing. Many of the houses were devoid of any imagination or inspiration, being in an intermediate style that was neither modern nor traditional; there was little coherence or organization about the arrangement of the various features; and there was much that was meretricious and pretentious in the detail. The ideal house of tomorrow was definitely not in evidence here, and the inevitable conclusion must be that there is still much room in the lower-priced housing field for education in improved architectural standards.

Wyatt Proves Persuasive

The event of the week was the speech delivered by Wilson Wyatt, Housing Expediter. The keynote of his talk was cooperation and sustained effort. So convincing was his presentation of the details of the program, and so persuasive were his arguments that, whereas the Association had previously been violently opposed to his proposals, his remarks were very cordially received, and on the following day the executive committee of the association went on record as endorsing many points in his plan.

Mr. Wyatt characterized the present crisis in housing as a challenge, a responsibility and an opportunity that the home builders of America must do everything in their power to meet. He cited statistics to show that in addition to the shortage of a million homes as of October, 1945, when demobilization started, by the end of 1946 there will be an additional deficiency of 2,700,000 homes, which will increase by the end of 1947 to 3,200,000. The government will be able to accommodate in emergency housing only about 200,000, leaving the balance to be taken care of by private enterprise. The full capacity of prefabricators of houses and parts of houses, as well as that of conventional builders, must be tapped, he said, for production goals are so huge that their achievement will require maximum participation from all productive sources. Despite the best efforts of everyone, said Mr. Wyatt, success of the program would still leave doubling-up and overcrowding worse at the end of 1947 than in October, 1945. Meanwhile no progress will have been made in the replacement of 10,000,000 substandard dwellings.

Terms Premiums Vital

Any regulation that was proposed to help alleviate the situation, he declared, would be definitely of a temporary nature, and would be discarded as soon as it had served its purpose. However, under the circumstances he felt that it would be necessary for the government to exercise close supervision not only over building activity, but over the production of building materials as well.

In this connection he declared premium payments to be an essential part of his program, in order to assist the producer in getting started, and to offset some of the abnormal risk. It was not his intention to employ premium payments generally, for where analysis indicated that price increases would be more effective in securing increased production, the latter would be approved. Where premium payments were established, such premiums would apply only to the portion of production in excess of the normal amount, and where no increase was accomplished, no premium would be paid.

Premium payments for finished prefabricated units were not contemplated, the Expediter declared, although payments might be made on materials going into such units, the same as if they were to be used in site-built houses. Likewise, preferred priority ratings would not be given to manufacturers of prefabricated units, but materials would be fairly apportioned.

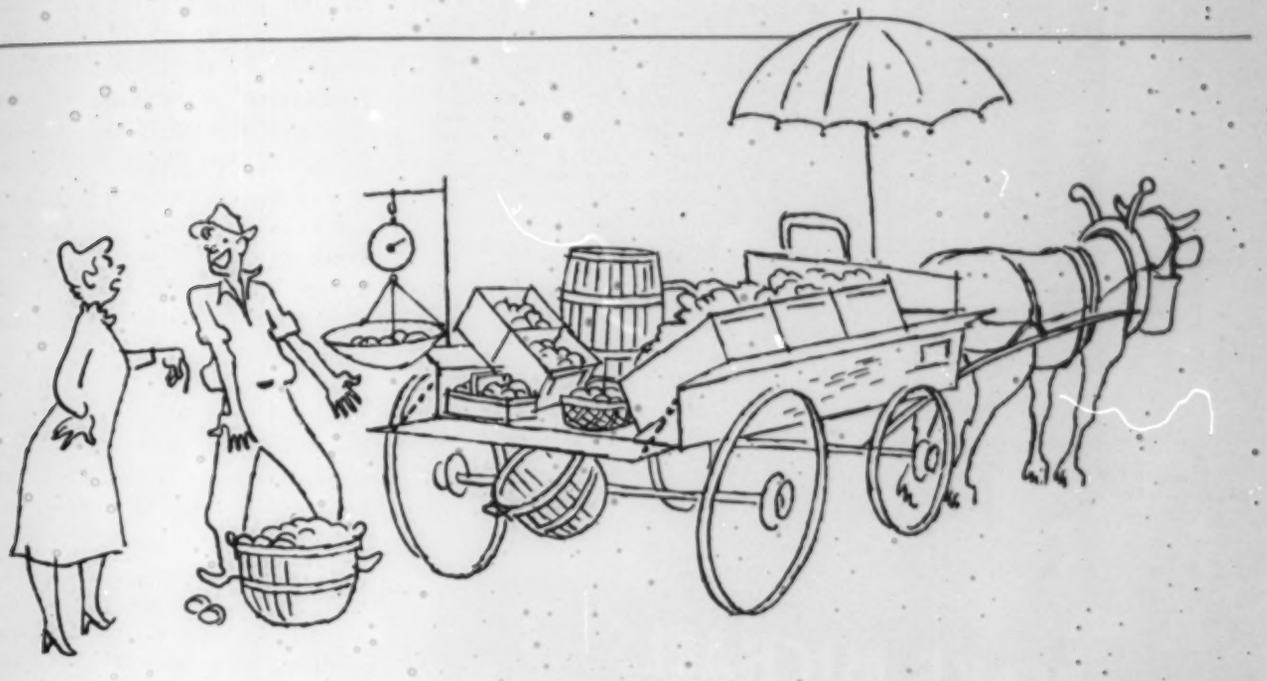
Price Levels Flexible

Mr. Wyatt stressed the fact that the home cost ceiling would be set at $10,000, although it was hoped that the greater part of the available labor and materials could be channeled into houses at $6,000. This $6,000 figure, he admitted, must be

(Continued on page 154)

Why are some roofs

like the peaches on the top of the basket?



THERE IS A SAYING that the Huckster's reputation is on the top of the basket, and that somewhere near the bottom you come upon his character. A roof is like that.

To make certain that the roofing materials which can't be seen when the roof is completed match the fine, quality-look of the finished job, specify Koppers Coal Tar Pitch and Approved Tarred Felt. These products are as good "on the bottom of the basket" as they are on the top. Roofs built of coal tar materials have records of 20, 30, 40—and even more—years of satisfactory service. They require little or no maintenance.

Specify Koppers coal tar pitch roofing materials.—Koppers Company, Inc., Tar and Chemical Division, Pittsburgh 19, Pa.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

KOPPERS

coal tar built-up roofing

KOPPERS

coal tar membrane waterproofing

★ MAKE MICHAELS
YOUR SOURCE OF SUPPLY
FOR METAL BUILDING PRODUCTS

Since 1870 this organization has manufactured bronze, aluminum and nonferrous metal products to meet virtually every building requirement. During this time a large part of our work has been the faithful reproduction, in metal, of architects' creations and plans. Today we are in an even better position to handle this class of business. So, whether it be new construction or a remodeling job, don't overlook the products and service offered by Michaels. Write for more details. The bronze door illustrated above is only one of many Michaels products. A partial list is given in the next column.

MICHAELS PRODUCTS
Fixtures for Banks and Offices
Welded Bronze Doors
Elevator Doors
Elevator Enclosures
Check Desks (standing and wall)
Lamp Standards
Marquise
Tablets and Signs
Name Plates
Astragals (adjustable)
Railings (cast and wrought)
Building Directories
Bulletin Boards
Stamped and Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Wrought Iron and Bronze Lighting Fixtures
Wire Work
Cast Thresholds
Extruded Thresholds
Extruded Casements and Store Front Sash
Bronze and Iron Store Fronts
Bronze Double Hung Windows
Bronze Casement Windows

THE MICHAELS ART BRONZE CO., Inc., Covington, Kentucky
Manufacturers since 1870 of many products in Bronze, Aluminum and other metals

BOECKH INDEXES OF CONSTRUCTION COSTS ARE BACK FROM WAR

In these reconversion days an old RECORD feature comes back from the war, in the Boeckh index numbers of construction costs (opposite page). The Boeckh figures ran in the RECORD through early 1942, then became a war casualty, as their compiler, E. H. Boeckh, went to Washington to estimate construction costs for the Army. Through the war his own organization carried on with the gathering of basic data; now Lt. Col. Boeckh is finishing his Army duties and reconverting. A special arrangement enables the RECORD to be first to make his cost indexes available.

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published legal prices, thus, indexes reflect minimum costs and not necessarily actual costs.

CONSTRUCTION COST INDEXES — Labor and Materials

United States average 1926—1929 = 100

Compiled by Clyde Shute, Manager, Statistical and Research Division, F. W. Dodge Corporation, from data collected by E. H. Boeckh & Associates, Inc.

NEW YORK

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1913	57.9	59.5	53.9	53.7	53.2
1914	57.4	59.1	53.3	54.6	53.1
1915	56.0	57.6	52.5	53.1	51.8
1916	64.5	65.9	62.3	62.1	69.0
1917	75.3	77.6	73.2	72.3	83.9
1918	85.8	87.7	82.2	83.1	89.2
1919	99.0	100.5	92.0	91.6	93.6
1920	136.1	136.9	123.3	123.6	122.6
1921	109.8	109.8	101.3	103.5	100.1
1922	109.5	109.5	99.0	100.1	96.3
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1941	134.5	135.1	135.1	137.2	134.5
1942	139.1	140.7	137.9	139.3	137.1
1943	142.5	144.5	140.2	141.7	139.0
1944	153.1	154.3	149.6	152.6	149.6
1945	160.5	161.7	156.3	158.0	155.4
Jan. 1946	173.1	173.7	169.8	170.4	167.0
Feb. 1946	173.1	173.7	169.8	170.4	167.0
	% increase over 1939				
Feb. 1946	**40.2**	**41.8**	**30.0**	**27.7**	**28.4**

ATLANTA

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1913	42.1	41.2	43.3	43.0	44.3
1914	40.6	39.5	42.2	42.1	43.4
1915	42.1	41.0	43.3	43.8	43.7
1916	47.6	46.0	52.6	53.8	57.6
1917	55.3	54.4	63.7	63.9	74.4
1918	71.9	71.3	74.6	75.4	80.7
1919	92.1	93.3	85.6	85.7	88.9
1920	122.8	122.9	108.6	109.8	105.7
1921	84.4	85.1	81.9	84.0	76.8
1922	82.2	83.4	79.6	80.6	74.6
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1941	97.5	96.1	99.9	101.4	100.8
1942	102.8	102.5	104.4	104.9	105.1
1943	109.2	109.8	108.5	108.1	108.7
1944	123.2	124.5	117.3	117.2	118.2
1945	132.1	133.9	123.2	122.8	123.3
Jan. 1946	137.9	138.4	127.4	127.3	127.0
Feb. 1946	140.8	142.6	130.4	128.9	128.9
	% increase over 1939				
Feb. 1946	**63.2**	**71.6**	**37.3**	**32.4**	**36.3**

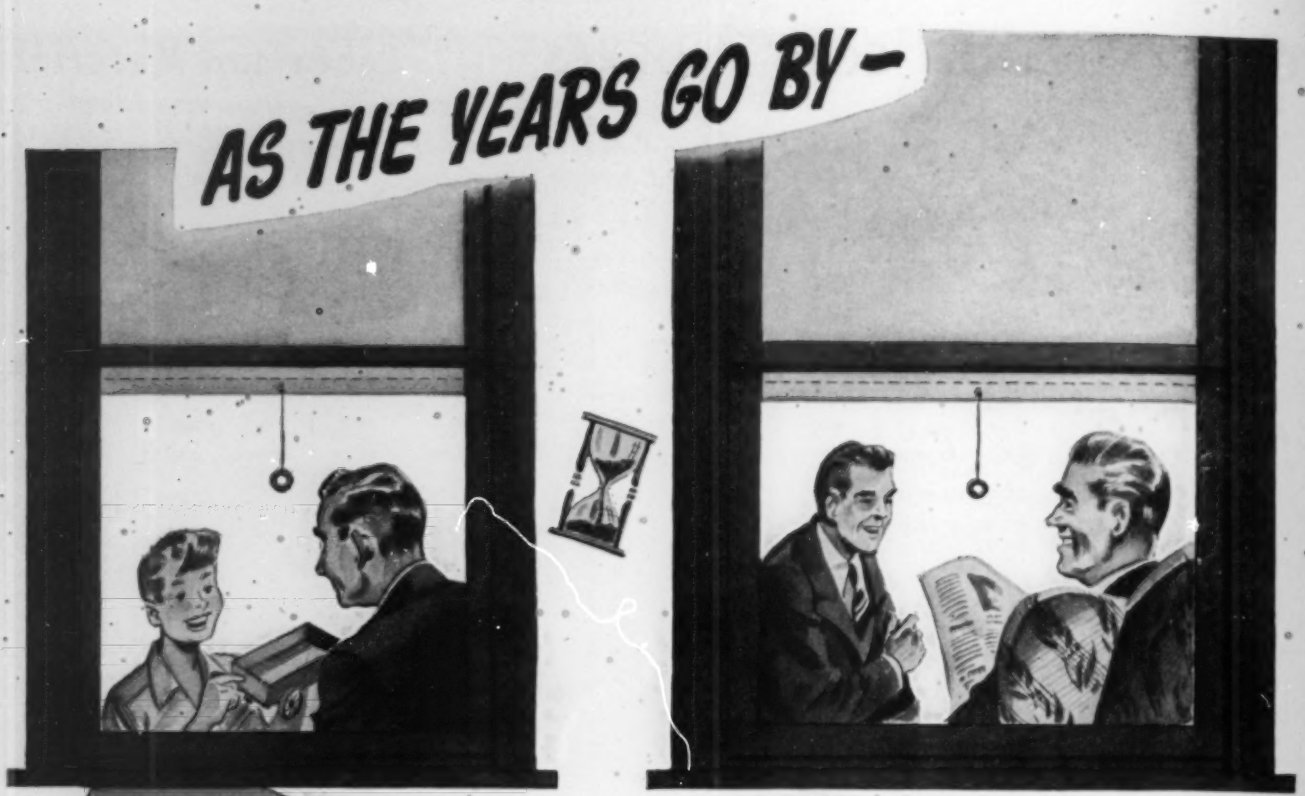
ST. LOUIS

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1913	60.9	62.6	56.7	57.6	54.7
1914	59.4	61.1	54.4	54.7	53.4
1915	60.9	62.1	56.9	58.6	55.1
1916	58.9	58.8	62.6	62.8	70.1
1917	65.5	69.7	71.7	71.5	81.3
1918	85.7	88.4	82.5	82.7	89.1
1919	93.4	95.0	91.4	91.6	93.8
1920	118.1	121.1	112.1	110.7	113.1
1921	111.5	113.3	105.0	106.7	103.2
1922	98.4	98.1	96.2	97.4	93.9
1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1941	118.8	118.0	121.2	121.7	122.2
1942	124.5	123.3	126.9	128.6	126.9
1943	128.2	126.4	131.2	133.3	130.3
1944	138.4	138.4	135.7	136.7	136.6
1945	152.8	152.3	146.2	148.5	145.6
Jan. 1946	157.7	158.3	150.8	152.6	149.5
Feb. 1946	157.7	158.3	150.8	152.6	149.5
	% increase over 1939				
Feb. 1946	**43.0**	**47.8**	**27.0**	**27.3**	**25.6**

SAN FRANCISCO

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1913	55.1	51.7	63.8	67.8	64.4
1914	54.1	50.7	61.6	66.0	59.4
1915	54.6	51.1	62.5	67.5	59.8
1916	57.5	54.1	67.6	70.1	73.9
1917	65.6	63.0	77.2	78.1	94.6
1918	78.3	76.6	85.8	87.4	94.3
1919	89.2	87.8	96.7	98.5	102.2
1920	108.8	107.5	115.2	115.1	122.1
1921	93.8	89.5	102.3	105.6	103.8
1922	91.5	88.3	97.1	100.5	95.6
1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1941	116.3	112.9	120.5	123.4	124.3
1942	123.6	120.1	127.5	129.3	130.8
1943	131.3	127.7	133.2	136.6	136.3
1944	139.4	137.1	139.4	142.0	142.4
1945	146.2	144.3	144.5	146.8	147.9
Jan. 1946	148.6	146.4	146.7	148.3	149.3
Feb. 1946	150.6	147.7	149.2	151.1	150.3
	% increase over 1939				
Feb. 1946	**42.2**	**48.7**	**27.1**	**24.0**	**29.0**

AS THE YEARS GO BY—



---Washable "TONTINE"* Shade Cloth Stands the Wear!

HERE'S WHY "TONTINE" SHADE CLOTH OFTEN GIVES UP TO 20 YEARS' SERVICE

Deep into the fibers of the fabric, the pyroxylin is driven. This chemical—a liquid form of cotton—is soaked up by the cotton fabric as a sponge soaks up water, then it hardens. Thus the two become, in effect, one material.

Pyroxylin is washable—it is impervious to water, soap, rain, grime and dirt. When a shade made with "Tontine" becomes soiled, it can be scrubbed with soap and water, then rehung fresh and clean as ever. Service records show that "Tontine" can be scrubbed—vigorously—20 times or more without damage! And colors resist fading, stay bright for the life of the shade.

Resists cracking and pinholing. "Tontine's" pyroxylin impregnation gives it a protective finish that resists cracking and pinholing. And it gives maximum resistance to fraying and ripping. Constant improvement of all these qualities through the years makes today's "Tontine" one of the best values in its field.

"Tontine"-made window shades *have* in many cases given service of 20 years! And this service record is important to you. It tells how you can please clients by specifying window shades that *last longer, save cost.* When you order window shades, specify "Tontine." It's pyroxylin-impregnated. Washing actually helps to *prolong* its life! And to save you time and trouble, your authorized "Tontine" dealer can arrange an economical washing and repairing service. E. I. du Pont de Nemours & Co. (Inc.), "Tontine" Sales, Newburgh, N. Y.

*"TONTINE" *is Du Pont's trade mark for its pyroxylin-impregnated* washable *window shade cloth.*

DU PONT "TONTINE"

WINDOW SHADE CLOTH

Looks Better Longer

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING

. . . THROUGH CHEMISTRY

How to prevent excessive corrosion of metal breechings

LONGER LIFE for equipment is often a major advantage of using heat insulation. At the Delaware Generating Station, Philadelphia Electric Co., outdoor breechings carry spent gases at 350° to 400° F. to the stack. By preventing cooling of the breechings, insulation stops excessive condensation and the resultant corrosion on interior surfaces. On the outside, effective weatherproofing protects both metal and insulation.

Because of the length of the breechings and the high temperatures involved, unusual expansion problems are encountered. Armstrong designed and applied the insulation to meet these special requirements. Expansion joints were covered as separate units—allowing free movement without damage to insulation.

Armstrong's Contract Service can help you with the engineering problems of unusual as well as routine applications of heat insulation and can supply efficient materials and skilled mechanics for erection. For full information, phone to nearest Armstrong Office listed below. Armstrong Cork Co., Building Materials Division, 2404 Concord Street, Lancaster, Penna.

1. Transverse stiffeners on breechings; 2. ¼" pencil rods welded on; 3. 1" thick 85% Magnesia wired in place; 4. 2" mesh hexagonal wire netting wired to blocks; 5. Asbestos cement ½" thick (2 coats); 6. 1" mesh hexagonal wire netting; 7. Insulmastic (2 coats). This efficient weatherproofing material seals out air, moisture, and fumes. Insulmastic will not crack, sag, or blister.

ARMSTRONG'S INDUSTRIAL INSULATION

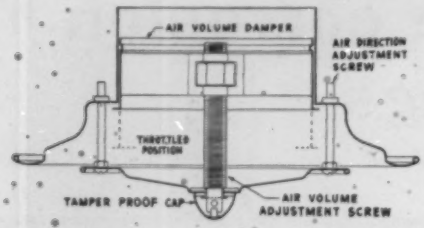
Complete Contract Service For All Temperatures

From 300° Below Zero

To 2600° Fahrenheit

ALBANY, N. Y. • ATLANTA, GA. • BALTIMORE, MD. • BIRMINGHAM, ALA. • BOSTON, MASS. • CINCINNATI, OHIO • CLEVELAND, OHIO • COLUMBUS, OHIO • DALLAS, TEXAS • DETROIT, MICH. • HARTFORD, CONN. • HOUSTON, TEXAS • INDIANAPOLIS, IND. • JACKSONVILLE, FLA. • KANSAS CITY, MO. • LOUISVILLE, KY. • MEMPHIS, TENN. • MILWAUKEE, WIS. • NEW ORLEANS, LA. • NEW YORK, N. Y. • PHILADELPHIA, PENNA. • PITTSBURGH, PENNA. • PROVIDENCE, R. I. • RICHMOND, VA • ST. LOUIS, MO. • TULSA, OKLAHOMA • WASHINGTON, D. C.

FOR BETTER BUILDING



Tamper-proof adjustable air diffuser

AIR DIFFUSER

A modification in the design of the *Kno-Draft* adjustable air diffuser provides a tamper-proof adjustment since a special tool is required to remove the cap which gives access to the damper control screw. The volume control damper regulates flow of air, while the lower cone varies the angle of air discharge to suit ceiling heights, and air flow may be directed downward for heating, or parallel to ceiling for cooling. W. B. Connor Engineering Corp., 114 East 32nd St., New York 16, N. Y.

CIRCUIT BREAKER

A small inexpensive circuit breaker for use in home installations is offered for use with either alternating or direct current. The *Aireon* circuit breaker may also be used as a manual switch, and gives definite indication of circuit condition. Manufacturer claims to exceed all underwriter requirements. Aireon Mfg. Corp., Kansas City, Kans.

RUBBER FLOOR MAT

Chemists have developed a synthetic rubber floor mat that matches quality of prewar mats of natural rubber. Made in several conventional types and in a variety of colors, the mats may also be imprinted with special patterns. U. S. Rubber Co., 1230 6th Ave., New York, N. Y.

SYNTHETIC TILE

Made from panolene type material, the *Amtico* floor tile is recommended by the maker for floors subjected to hard usage. Resilient and quiet underfoot, it is stated the marbleized surface is not marred by burns or stains. There are 13 colors and 6 standard sizes. American Tile & Rubber Co., Trenton, N. J.

ADJUSTABLE POST

A prop that may be adjusted to various heights to correct sagging or settling, the *Flor-Levl-Post* consists of a screw post operating within a metal sleeve. A rod extending through the screw gives leverage for adjusting level by hand turning. It is recommended by the manufacturer in construction of new buildings to provide a means of compensating for possible displacement, and is said to be capable of supporting more than 12 tons. Industrial & Home Products, Inc., Akron 8, Ohio.

WATER ENAMEL

A hard, lustrous finish that washes like a china plate is claimed for *Spred Luster*, the water-mix oil enamel. Application is rapid and easy, drying action is rapid, and excellent coverage is obtained, according to the manufacturer. A wide variety of colors is offered. The Glidden Co., Cleveland 2, Ohio.

LAMINATED PANEL

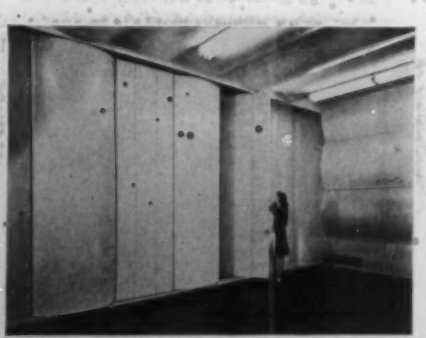
Another product of the aircraft factories is showing promise of entering the construction field. *Metalite*, made of thin sheets of aluminum alloy separated by a core of balsa wood, is said to combine considerable strength and rigidity with lightness, and surface will require no treatment. This product offers considerable possibilities for panels and partitions. United Aircraft Corp., Chance Vought Aircraft Division, Stratford, Conn.

STRIP WINDOWS

For use in horizontal bands combined with continuous strips of glass block, or for use within panels of glass block, metal windows of special size and type are now offered. Better control of ventilation, illumination and glare, and elimination of necessity for shades over the upper part of the glass area are said to be accomplished by this method of installation. Hope's Windows, Inc., Jamestown, N. Y.

ACOUSTICS

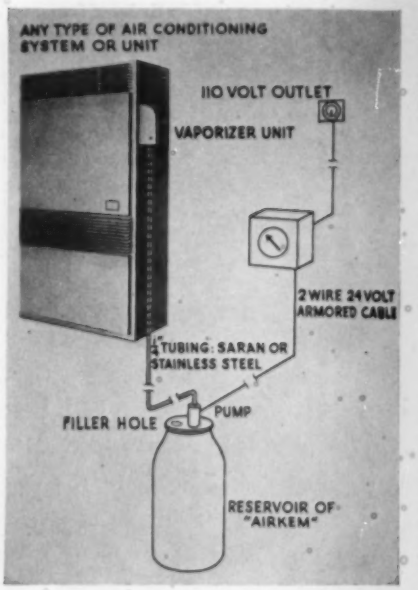
Progress in the theory of acoustics in radio broadcasting is demonstrated in the design of Polyacoustic Studios at Station KSL, Salt Lake City. Sound-absorbing *Acoustone* was used in all areas adjacent to the broadcasting studios to prevent noise transmission. In Studio I reversible panels were installed on the rear wall, having, on the one side, flat surfaces covered with *Auditone* acoustical tile, and, on the other, curved surfaces covered with a hard material. *Auditone* strips were also mounted along the corners of the room, while the ceiling and other walls were treated with curved hard surfaces to give diffused sound deflection. Manipulation of the adjustable panels permits control of the amount of resonance to conform with the program requirements. U. S. Gypsum Co., 300 West Adams St., Chicago 6, Ill.



Reversible panels aid acoustic control

AIR FRESHENER

Development is announced of the *Airkem Evapatrol* unit which may be attached to any type of air conditioning system or unit. A chemical deodorizing agent is pumped into a vaporizer and mixes with and freshens the conditioned air before it is recirculated. W. H. Wheeler, Inc., 7 East 47th St., New York, N. Y.



A chemical deodorizer to freshen air

SASH BALANCE

Equipped with a pre-tensioned spring, which, according to the maker, permits fast and trouble-free installation, the *Rochester* spiral sash balance is completely concealed within the sash stile, the groove being closed at top and bottom. The sliding bearing operates freely, yet will hold the sash in any position. Milwaukee Stamping Co., Milwaukee 14, Wis.

ADJUSTABLE QUAD

Angles, pitch scales, percentage slopes, and trigonometric functions may be found with the adjustable, plastic *S & J Quadrangle*. This drafting instrument has eight drawing edges, is rectangular in shape, and may be used as a triangle. Stewart-Jackson Instrument Co., A. G. Bartlett Bldg., Los Angeles 14, Calif.

(*Continued on page 28*)

Precision

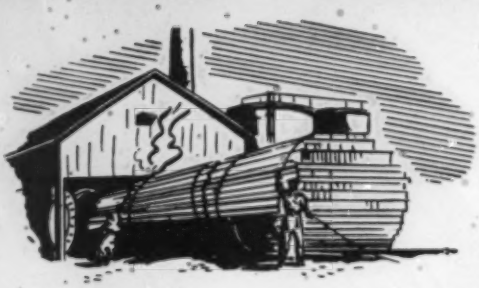
FROM the first design on the drawing board to the manufacture of a machine or the construction of a building, precision tools are essential. Foremost in the design stage is the need for dependable drawing pencils, precision tools in the hands of skilled draftsmen.

VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately *graded* to assure uniformity in all 17 degrees... *strong* in performance... *smooth* and *clean* in action.

VENUS *DRAWING PENCILS*

AMERICAN LEAD PENCIL COMPANY, HOBOKEN, NEW JERSEY

PRESSURE IS PROTECTIVE **TREATMENT**



For most effective wood preservation, the chemicals must be forced *deep* into the wood. American Lumber & Treating Company obtain this deep penetration by the vacuum-pressure method in closed steel cylinders. Dipping, brushing on, or other makeshift methods can't begin to give comparable results. So, when you buy treated lumber, remember to say, "*pressure*-treated" . . . it's best!

Whatever your needs —

AMERICAN LUMBER GIVES YOU ALL 3

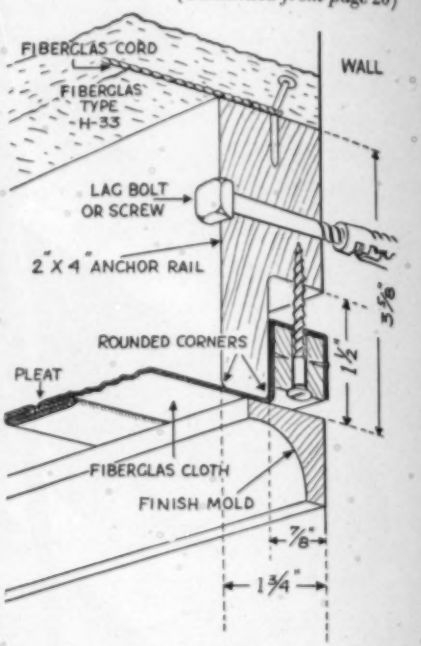
1. Wolmanized Lumber* — protects against decay and termite attack.
2. Minalith—fire-retardant.
3. Creosoted lumber.

*Registered trademark

1679 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

FOR BETTER BUILDING

(*Continued from page 26*)



Simplified sound-blanket installation

ACOUSTIC CEILING

A simple and rapid means of installing a decorative, sound-absorbing ceiling employs *Fiberglas* blanket. Notched 2 by 4's are bolted 8 in. below the ceiling on opposite walls of the space to be treated. *Fiberglas* cord is stretched from the top of one 2 by 4 to the other, and blanket is supported on cord spanning the room. Decorative *Fiberglas* fabric cut to fit the width of the room is nailed in pleats to wood strips ¾ in. square. When strips are screwed into the notches in the 2 by 4 anchor rails, fabric is pulled taut. A finish mold covers joint at wall. The manufacturer claims that when fire-resistant wood is used installation is completely incombustible, and, since the glass fibers will not absorb moisture there can be neither shrinkage nor sag. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.

LIGHTING

Lamp Holder

Automatic centering of contacts, which eliminates the need of adjusting the lamp contact prongs in the socket, is claimed for the *Springlox* safety lamp-holder. The spring holds lamp firmly in place. Benjamin Electric Mfg. Co., Des Plaines, Ill.

Recessed Light Unit

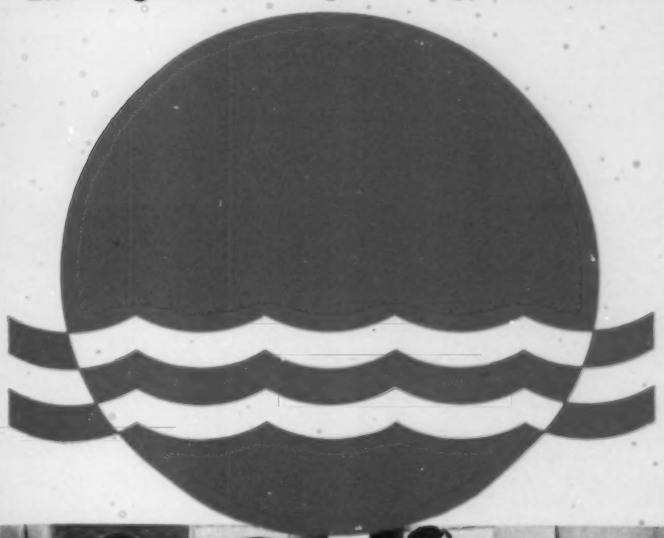
A "telescopic" frame, that manufacturer states will fit snug and flush to the most uneven ceilings, is a feature of the new *All-Bright* recessed fluorescent fix-

(*Continued on page 30*)

Let this Mark of Merit be your guide

when you *specify* heating and plumbing products

It identifies products that are designed and engineered to give long, efficient service



Your best guide to health and comfort when you select or specify bathroom fixtures is the American-Standard Mark of Merit. It identifies the finest . . .yet products bearing this Mark of Merit cost no more.

And families pay no more for kitchen sinks and laundry trays that carry this famous Mark of Merit. It says they're designed to make housework lighter —your kitchen brighter.

Be sure you're right when you select or specify winter air conditioners or warm air furnaces. When they bear the American-Standard Mark of Merit you're assured of less worry, less work, less money for operation and upkeep.

You want assurance of health and comfort when you select radiator heating for your buildings. That's what you get when you select or specify time-tested, performance-proved American-Standard units.

ONE of the most important decisions you have to make is the choice of heating equipment and plumbing fixtures. When you specify, be *sure*. And you *are sure* when you select or recommend products that bear the familiar American-Standard Mark of Merit. You are *sure* of the finest in design, quality and efficiency . . . for American-Standard Products are backed by many millions of dollars spent in research. Time-tested and performance-proved, they have been Serving the Nations' Health and Comfort for more than half a century. Yet they cost no more than others and are available for modernization jobs on our convenient FHA Time Payment Plan.

For information, contact your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pa.

AMERICAN-Standard
HEATING PLUMBING
Serving the Nations' Health and Comfort

Appearance enhanced,
Maintenance lowered . . .

WITH A PORTLAND-CEMENT PAINT FINISH!

Housing development, Battle Creek, Michigan

An attractive coat of portland-cement paint is not alone a beauty aid; it also lowers upkeep cost. It penetrates the pores in concrete, concrete masonry, stone, brick and hollow tile to form a hard skin that resists moisture, dirt and dust. It is easily cleaned so that frequent repaintings are unnecessary.

Portland-cement paint is available in a wide selection of colors which are as lasting as its protective armor. The base of Atlas White Cement brings out the full color values of the pigments used.

Portland-cement paint made with Atlas White Cement is produced by a number of paint manufacturers. It comes in handy packages . . . ready to be mixed with ordinary tap water on the job.

Atlas White Bureau, Universal Atlas Cement Company
(United States Steel Corporation Subsidiary)
Chrysler Building, New York 17, N. Y.

FACTORY-PREPARED PAINT IS PREFERABLE
SEE YOUR LOCAL PAINT DEALER

AR-P-11

A UNIVERSAL ATLAS PRODUCT

ATLAS WHITE CEMENT
FOR PORTLAND-CEMENT PAINT

"THE THEATRE GUILD ON THE AIR" — *Sponsored by U. S. Steel—Sunday Evening—ABC Network*

FOR BETTER BUILDING

(*Continued from page 28*)

ture. Full depth louvers in either "egg crate" or "honeycomb" styles eliminate contrasting shadows. Special piano hinges and catches give easy access to all parts. All-Bright Electrical Products, 3917-25 North Kedzie Ave., Chicago 18, Ill.

Light Diffuser

A diffuser made of white enameled aluminum is quickly clamped on fluorescent assemblies to improve the appearance of open lamp fixtures and eliminate glare. The *Fluor-O-Shield* casts no shadows and is easily cleaned. Camfield Mfg. Co., Grand Haven, Mich.

Clamp-on light shield for fluorescents

STAINLESS TUBING

Manufactured from stainless steel tubing of various analyses, flexible steel hose is recommended by the manufacturer for steam connections, conduits for wiring, for connections between movable parts, or where vibrations are set up between two rigidly held units. The Carpenter Steel Co., Welded Alloy Tube Division, Kenilworth, N. J.

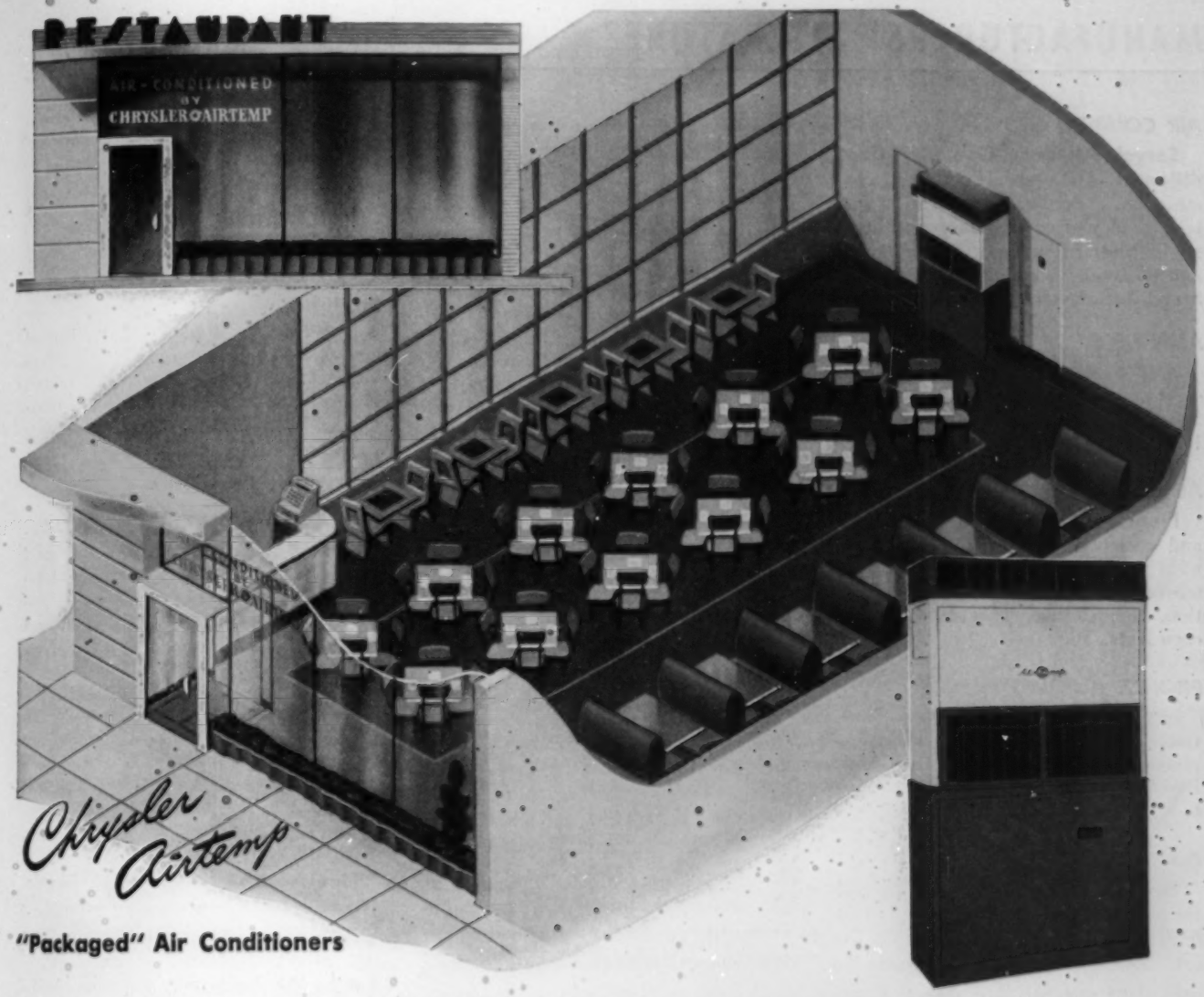
STANDARDS

Color Designation

Described as a basic system of color designation involving the use of everyday words, the ISCC-NBS Method provides a practical means of accurately describing colors with reference to their hue, value and saturation. Prepared originally by the Inter-Society Color Council, the method has been adopted by the National Bureau of Standards. A visual interpretation has been released showing principles and application of the method. General Printing Ink Co., 100 6th Ave., New York, N. Y.

Simplified Practice

Copies of the approved Simplified Practice Recommendation for Asphalt Roll Roofing and Asphalt and Tar Saturated Felt Products are now available. Listed items are smooth and mineral surfaced roll roofing, roll siding and saturated felt. Supt. of Documents, Govt. Printing Office, Washington 25, D. C. 5 cents.



"Packaged" Air Conditioners

How Architects Can Make Restaurants More Profitable

The place to start a profitable restaurant operation is right on the architect's drawing board. Make a good beginning by including in your new plans "Packaged" Air Conditioners, the simplified form of air conditioning pioneered by Chrysler Airtemp.

"Packaged" Air Conditioners quickly pay for themselves by the additional patronage they attract by reviving summer-jaded appetites. Then they go on increasing restaurant profits for years to come. Architects will find them so compact and flexible they fit readily into plans for any business establishment, whether installed singly or in multiple. Users like them because they are reasonable in price and operate with so little attention, so little service, and at such amazingly low cost.

They're thoroughly dependable — time-tested all over America. Behind them is Chrysler Corporation, with its great reputation for engineering and mass production skill. It will pay you to specify this modern, simplified form of air conditioning. Write Airtemp Division of Chrysler Corporation, Dayton 1, Ohio. In Canada: Therm-O-Rite Products, Ltd., Toronto, Ont.

"REMEMBER THURSDAY NIGHT! The music of Andre Kostelanetz and the musical world's most popular stars—Thursday, CBS, 9:00 P.M., E.S.T."

CHRYSLER AIRTEMP

HEATING • COOLING • REFRIGERATION

MANUFACTURERS' LITERATURE

AIR CONDITIONING

Servel All-Year Gas Air Conditioners. Data sheet describes construction, operation and control of system which cleans, humidifies and heats air in winter, and cleans, dehumidifies and cools air in summer. 2 pp., illus. Servel, Inc., Evansville 20, Ind.*

AMPLIFIERS

Audio Amplifiers. Description of eight new audio amplifiers. 24 pp., illus. Newcomb Audio Products Co., 2815 S. Hill St., Los Angeles 7, Calif.

ASPHALT TILE

Floors That Endure. Asphalt floor and wall coverings are presented in a wide range of colorings and design treatments. Specifications for application. 16 pp., illus. Tile-Tex Co., Chicago Hgts., Ill.*

BRONZE PLAQUES

Imperishable Cast Bronze. Illustrates signs, memorial tablets and nameplates of various designs. 4 pp., illus. Pan American Bronze Co., 628–648 Sycamore St., Cincinnati 2, Ohio.

BULKHEADS

Bilco Copper Steel Bulkheads. Six standard design types of steel bulkheads described, with installation details. Dimensions of stairs that may be used with each size are shown. 4 pp., illus. The Bilco Co., 164 Hallock Ave., New Haven 6, Conn.*

CONCRETE ADDITIVE

Plastiment, The Concrete Densifier. The action of Plastiment and its use to increase watertightness and surface hardness of concrete are covered in detail. 8 pp., illus. Sika Chemical Corp., Passaic, N. J.*

GLASS PRODUCTS

Making Your Home More Attractive With Glass, and **Details and Instructions for Installation of Pittsburgh Glass Products.** Profusely illustrated brochure gives many ideas for effective use of glass in the home. Useful handbook shows how to set various types of glass products for most satisfactory results. 28 pp., 16 pp., illus. Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.*

HEATING

The Pup Announces New Arrivals. Complete line of gas-heating equipment is illustrated, including unit heaters, space heaters and automatic water heaters. 8 pp., illus. Bryant Heater Co., 17825 St. Clair Ave., Cleveland 10, Ohio.*

HANGAR DOORS

Heart of the Hangar. A.I.A. file sheets cover specifications for construction, installation and operation of various hangar door types. 16 pp., illus. Byrne Doors, Inc., 1150 Griswold St., Detroit 26, Mich.*

INSULATION

Cotton Flameproofed Insulation. Folder tabulates comparative insulating value of various types of material and illustrates method of installation. 4 pp., illus. Lockport Cotton Batting Co., Lockport, N. Y.*

KITCHEN EQUIPMENT

Builder's Kitchen. Line of Youngstown steel cabinets and sinks is offered, together with dimensions. Also contains suggested and actual installations in homes of various price ranges. 24 pp., illus. Mullins Mfg. Corp., Warren, Ohio.*

Electrical Living. Walt Disney shows various arrangements of unit kitchens. Modern lighting throughout the home is also discussed, as well as use of supplementary electrical equipment. 40 pp., illus. Westinghouse Electric Corp., Pittsburgh 30, Pa.

LIGHTING

Wall to Wall Lighting for Tomorrow's Office. A model installation of lighting to meet the varying conditions and requirements of individual departments in a business establishment. Construction details are given. 12 pp., illus. General Electric Co., Nela Park, Cleveland 12, Ohio.*

PLUMBING

Styled Plumbing. Catalog of complete line of plumbing fixtures with dimensions and specifications. Featured is companion Dressette in which lavatory houses storage tank for toilet, thus eliminating visible water tank. Also shown are cabinet sinks, cabinet lavatories, urinals, wash sinks and drinking fountains. 24 pp., illus. Eljer Co., Ford City, Pa.*

PLYWOOD

The New Plastic Armor for Plywood. Gives survey of the characteristics of coated plywood and tabulates the merits of this material to meet requirements for various uses in construction. 8 pp., illus. Kimberly-Clark Corp., Plastics Div., Neenah, Wis.*

ROOF TRUSSES

Steel Roof Bowstring Trusses. Booklet showing installation of lightweight steel trusses to span large areas, typical designs and method of applying various types of roof construction. 8 pp., illus. Geo. L. Mesker & Co., Evansville 8, Ind.*

STRUCTURAL TILE

The Standard of Textured Tile. Specifications for glazed brick and tile are given, accompanied by details of standard sizes and special shapes. Gives vertical and horizontal coursing tables. Representative installations are illustrated. 20 pp., illus. Arketex Ceramic Corp., Brazil, Ind.*

WINDOWS

Stormtite Windows. Brochure furnishes specifications, construction and installation details, and information regarding various types and sizes of aluminum windows. 14 pp., illus. Albert Storms & Co., 101 Park Ave., New York 17, N. Y.

Residential Steel Windows. Specifications and installation details are presented for various types of windows in modular sizes. 8 pp., illus. Truscon Steel Co., Youngstown 1, Ohio.*

WIRE FENCING

How to Erect Chain Link Fence. Discusses specifications and methods for installing wire fences, setting posts, bracing, etc. Components of this type of fencing are illustrated, and tables indicate proper sizes to employ to meet requirements of various arrangements. Also shows a variety of gates for use with link fencing. 36 pp., illus. Wickwire Spencer Steel Co., 500 Fifth Ave., New York 18, N. Y.*

* Other product information in Sweet's File, 1945.

LITERATURE REQUESTED

The following architects and organizations request manufacturers' literature:

James D. Beacham, Architect, 209 Peoples National Bank Bldg., Greenville, S. C.

Garrett Becker, Architect, P. O. Box 21, Ridgefield, Conn.

H. C. Belsher, Architect, 1529 Maryland Ave., Houston 6, Texas.

Daniel C. Bryant, Architect, 509½ Water Street, Port Huron, Mich.

Construction Dept., Northwestern Univ., Evanston, Ill.

R. L. Novak, Architect, 713 Main Ave., Clifton, N. J.

Frederick A. Settle, Architect, 426 Cedar Lane, Teaneck, N. J.

U. S. Dept. of Agriculture, Bldgs. and Structures Sec., Rural Electrification Admin., Washington 25, D. C.

ARCHITECTURAL

RECORD

THE QUALITY OF HOUSING WILL BE STRAINED

WE ARE in the midst of it now — arguing, persuading, legislating, pontificating about the ways and means to bring about the building of millions of dwelling units. By the time this is printed and read, the pattern will, we hope, be fairly well set and this period of confusion and uncertainty, debate and suspended animation will be succeeded by one of production. Debate and disagreement will not stop when, if, and as production gets under full steam for whatever means are chosen will be subject to criticism and to modification.

Production, maximum production, of building materials and equipment is the immediate necessity. Labor, management, capital, government and the public agree on that. But production under what terms, at what prices, wages, costs, controls? Inflation rears its ugly head. Government agencies are contriving to soften and postpone the effects of the present and inevitable inflation, to prevent prices from skyrocketing, speculation from going hog-wild. But holding the line on prices in the face of wage increases, setting ceilings so low as to remove the profit incentive, has already postponed production. Indications are that "the line" may be forced to bulge; at least enough to encourage producers to take a chance. The alternative, "premium-payments," subsidies, to producers in lieu of profitable-prices, has not been acceptable to either producers or legislators in the House. But the fight is still on as this is written and the wisdom of either course will be questioned even after the decision is made and directives are issued.

But the question of immediate means for increasing the quantity of production should not overshadow considerations of the quality of the end products. What kinds of houses? For rent or for sale? What kinds of rental apartments? In what kinds of communities? These questions are as important in the long run as how many. Vernon de Mars' considerations of housing for people in this issue are pertinent in this period of suspended animation. The houses and apartments now to be built can be models of balanced communities for democratic living only by modifying the present emphasis on the $6,000 house. Liberalizing this present exclusive fixation is necessary to prevent row after row of "cheap" closely-packed future slums. And the minimum possible interpretation of "essential" building to be permitted should include schools, hospitals, and community facilities — both in newly created communities and in existing neighborhoods.

If the flood of expected housing is not to be a blight and a liability to the city or locality (no matter how avidly the house-starved G.I. snaps up the better-than-nothing shelter) the architects and planners must work with the city fathers and with the operative builders. This is the time for improving the planning, for determining the quality, for setting the pattern. The time before the deluge may be shorter than we think, for politically time is of the essence and quantity may well overshadow quality — unless local groups take action now.

Kenneth K. Stowell
EDITOR

SCHOOL TRANSFORMATION FOR THE NORTHEAST

Project for Up-State New York

Associated Architects: Kaelber and Waasdorp, Wheeler and Will

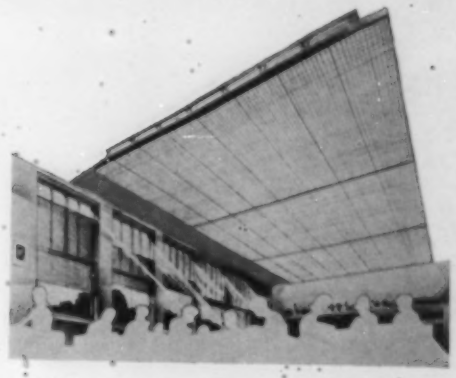
The design of this pioneer project was done from the inside out. The presentation is in the same order, to parallel the thought. It sets a new RECORD.

The architects wanted the advantages of the square classroom, hitherto a California type, but in a northeast region having the *least* abundant sunlight during the school year, instead of the most.

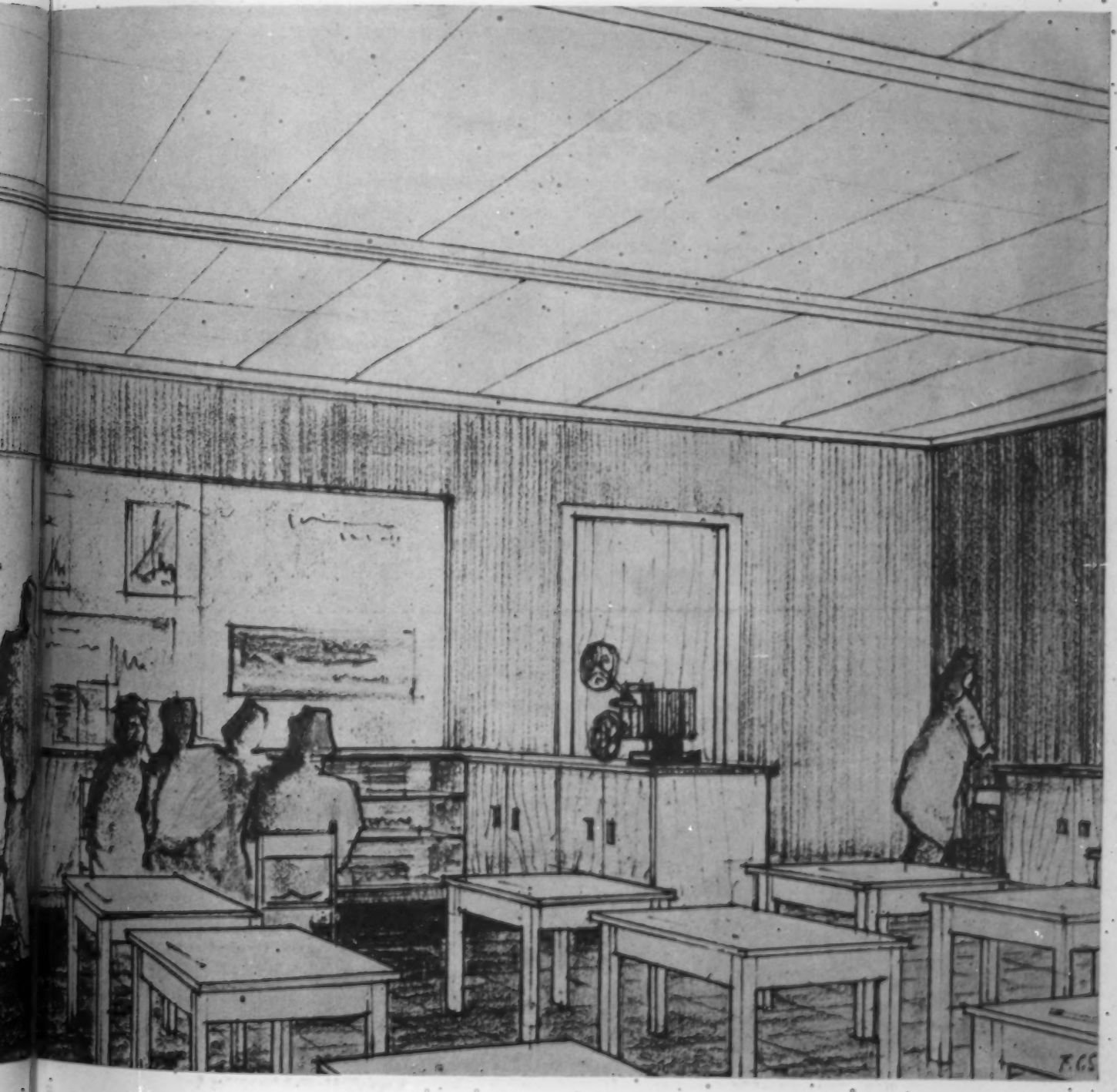
In the large rendering is seen the critical "extra" area of the square room, the "activity" section behind the drape. (Drape serves as blackout for visual education, see Feb. AR, p. 77.) To light this

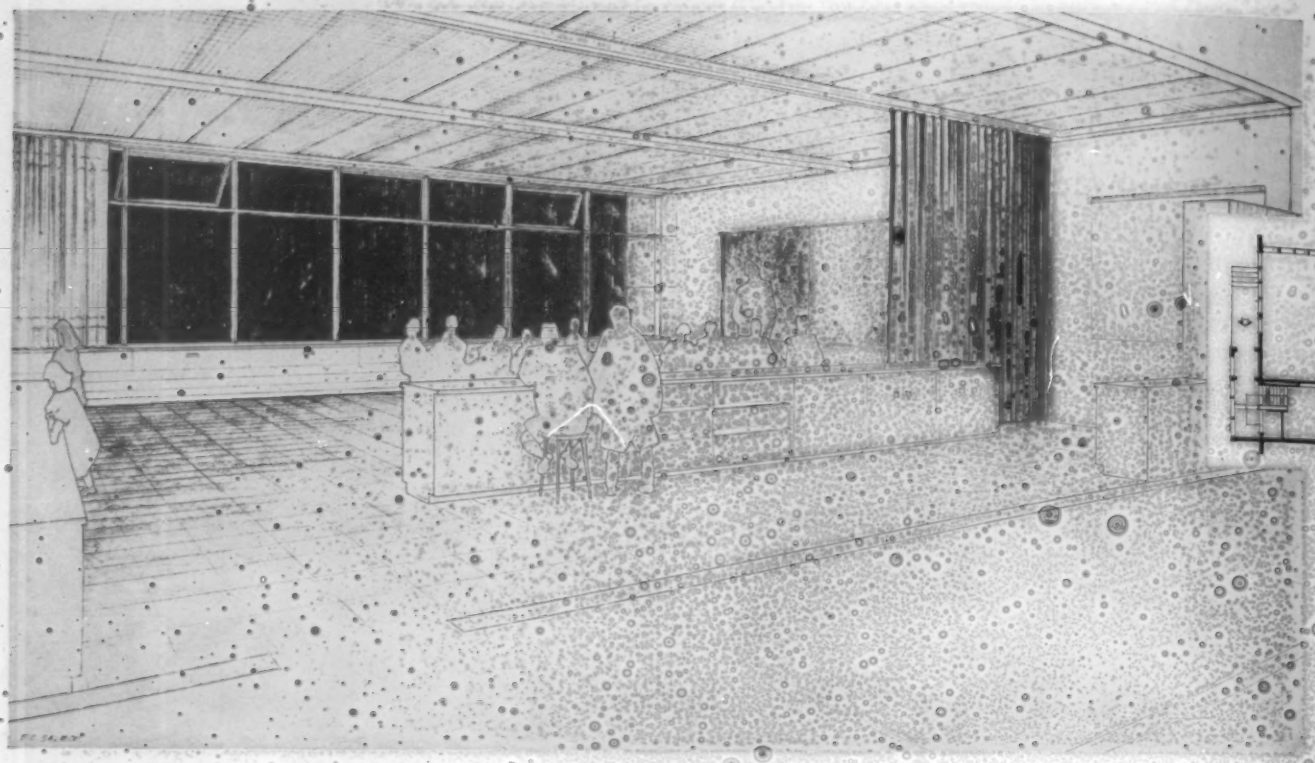
added depth, architects of the Southwest have used either bilateral lighting (AR, June, 1945, p. 96) or deeply recessed clerestories (AR, June, 1945, p. 84).

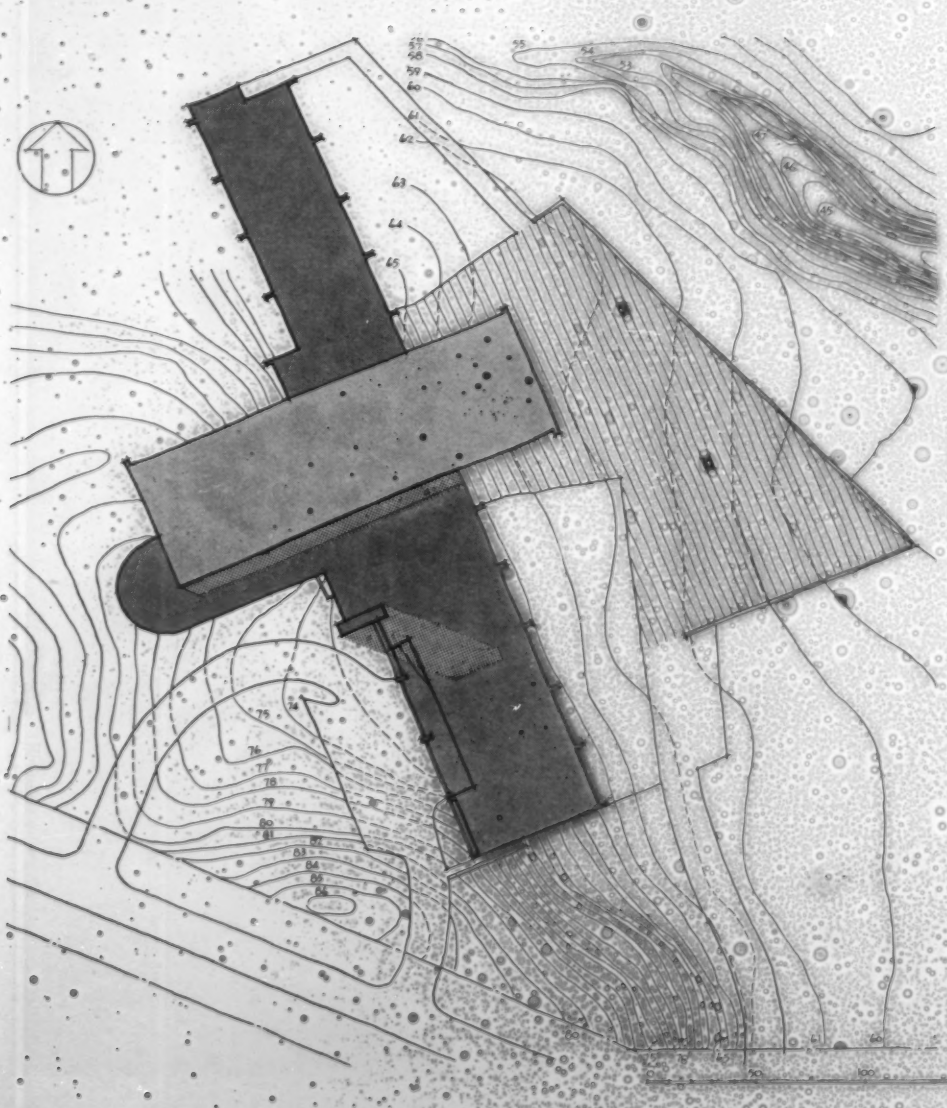
Instead of imitating these methods, our architects re-analyzed the problem for the new locale. Rather than try to stretch the skimpy daylight available, they decided to provide abundant auxiliary artificial lighting. This would be necessary in any case, to yield really excellent lighting instead of the minimum secured by codes and rules.



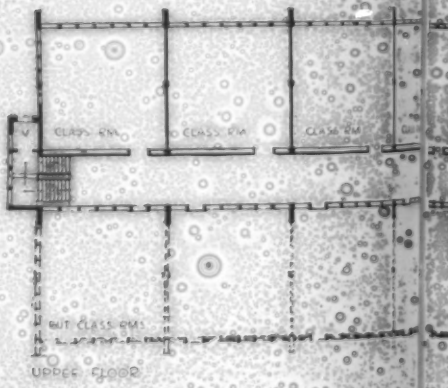
Above: Luminous ceiling, rows of fluorescent lights above continuous plastic "egg-crate." Below: Looking into work area of classroom





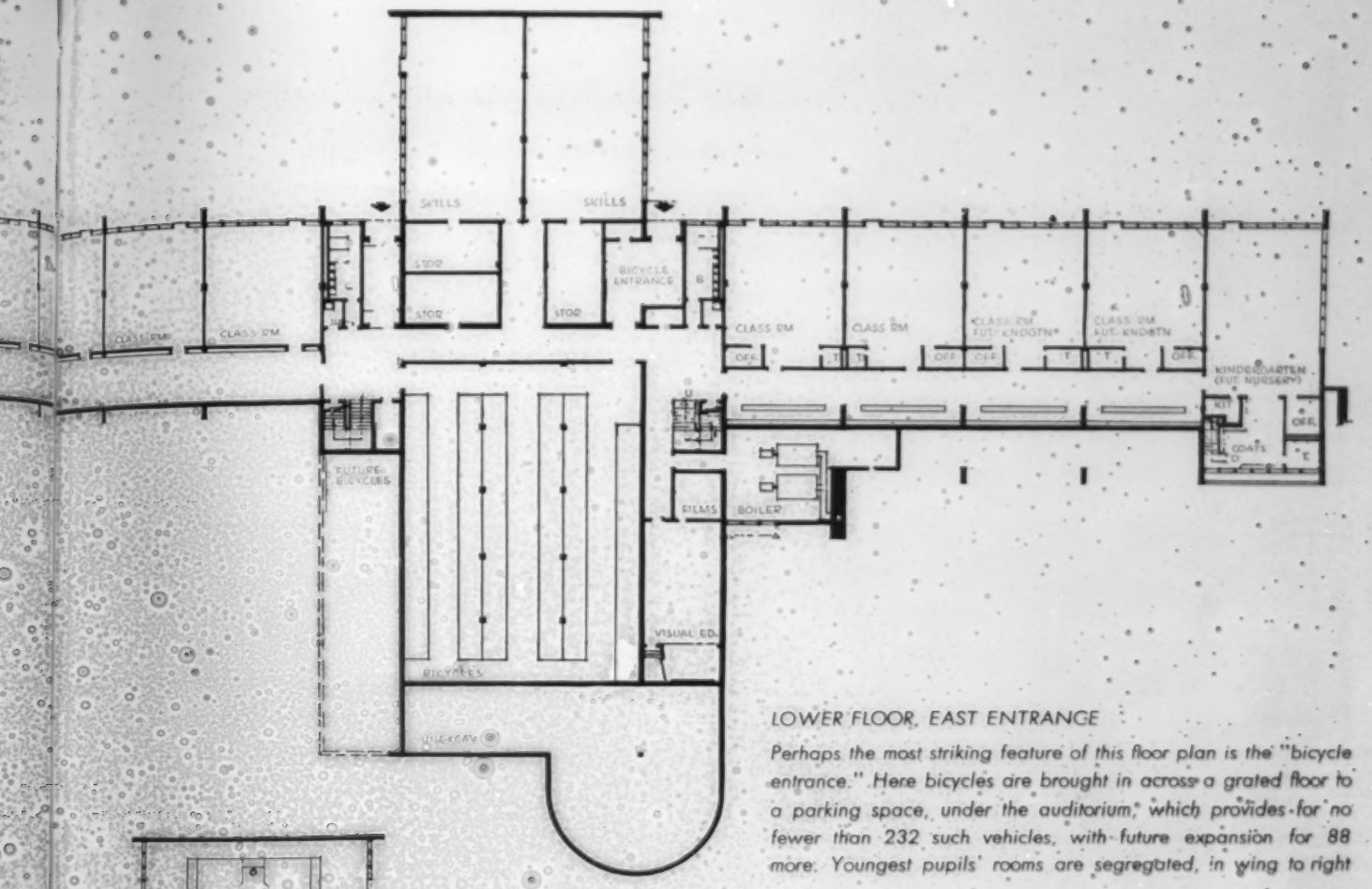


Classroom above will be recognized as the same which Architect Will proposed in the February RECORD *for audio-visual education. The low ceiling height (10 ft.) is an integral part of the conception, yielding a good intimate scale in relation to small children.*



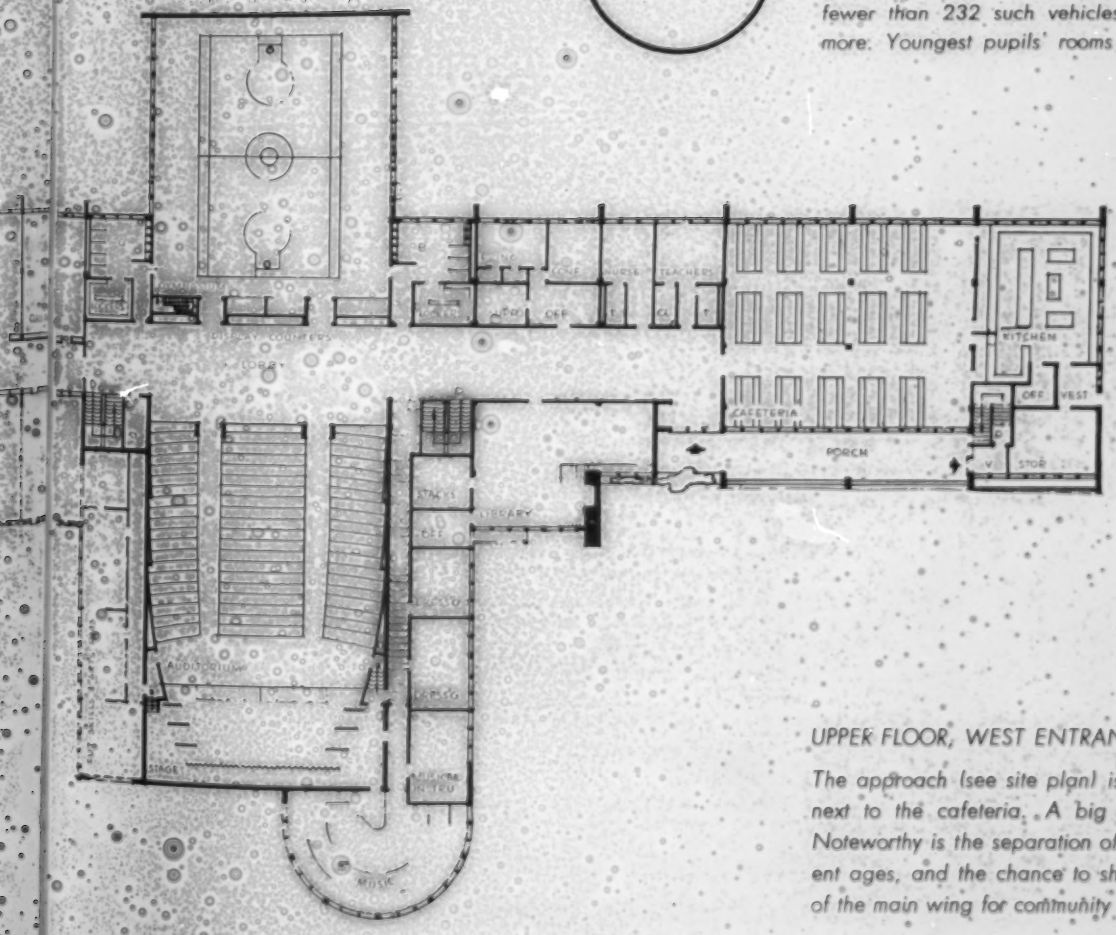
Plot plan, left, indicates the hilly terrain, with a 12-ft. drop in level along the ridge chosen for the building. This is utilized to create a two-story plan along the eastern side.

On completion, corridor seen directly above will be bilateral.



LOWER FLOOR, EAST ENTRANCE

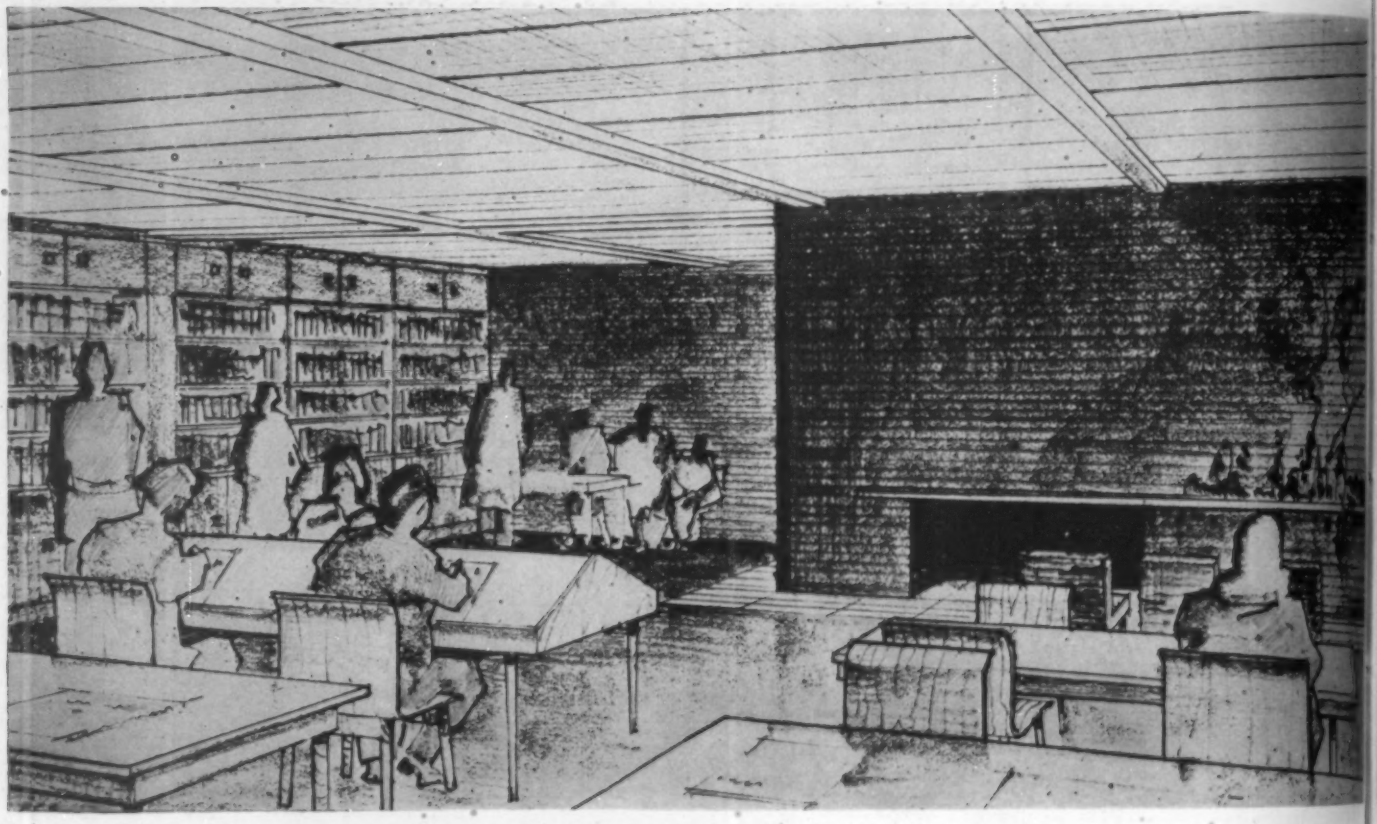
Perhaps the most striking feature of this floor plan is the "bicycle entrance." Here bicycles are brought in across a grated floor to a parking space, under the auditorium, which provides for no fewer than 232 such vehicles, with future expansion for 88 more. Youngest pupils' rooms are segregated, in wing to right



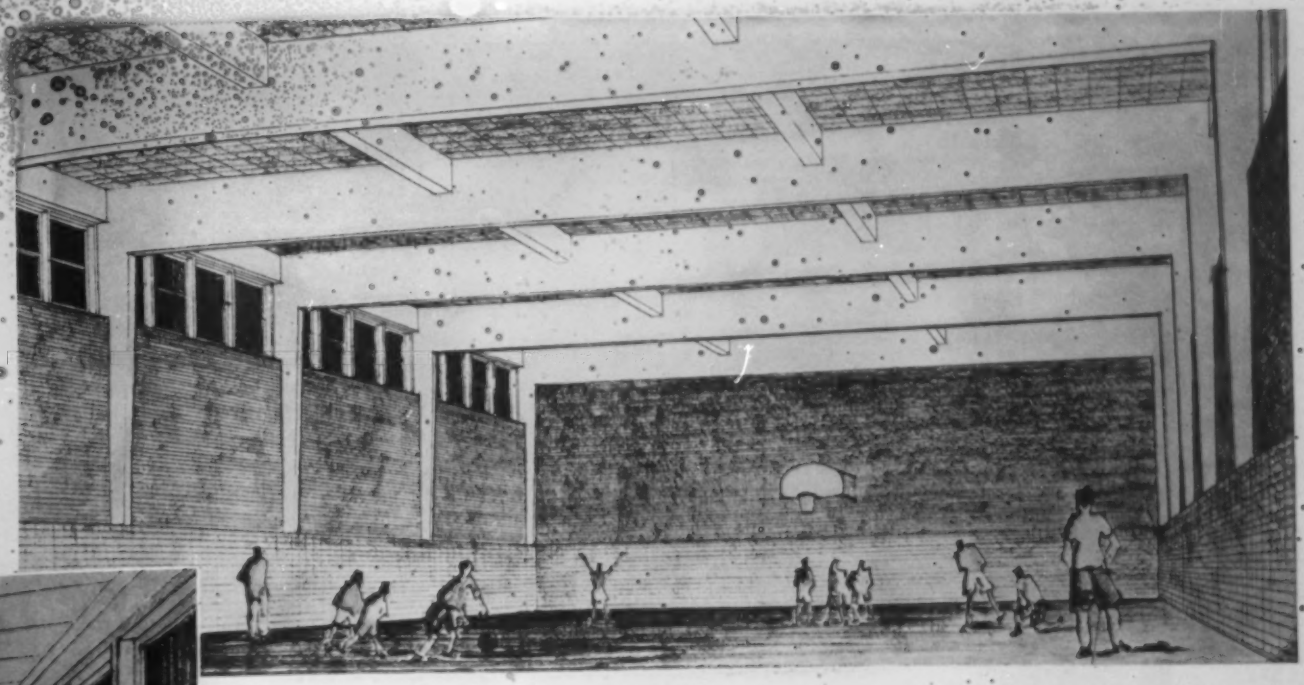
UPPER FLOOR, WEST ENTRANCE

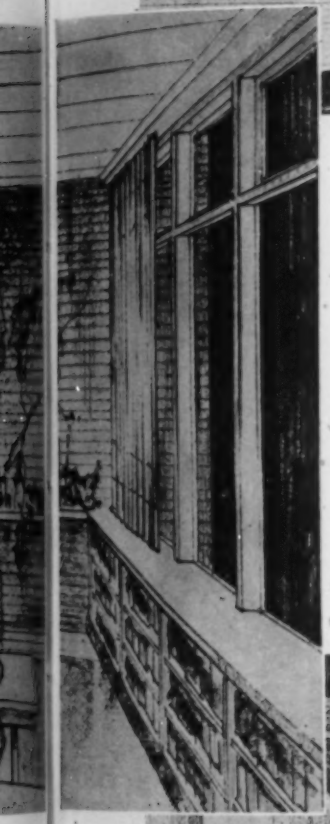
The approach (see site plan) is by way of the generous porch next to the cafeteria. A big chimney-pylon flanks this entry. Noteworthy is the separation of classroom groups serving different ages, and the chance to shut off the entire southern section of the main wing for community use when school is not in session

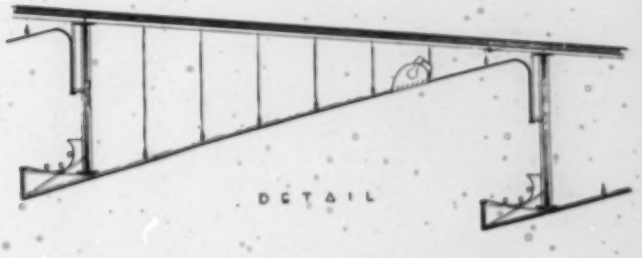
The library, seen below, is not only supplied with the pleasant fireplace and view, but is closely related, by a contiguous stair, to the visual education department on the floor below. The grouping of music and arts rooms near the auditorium gives the school, in effect, a "communications" unit

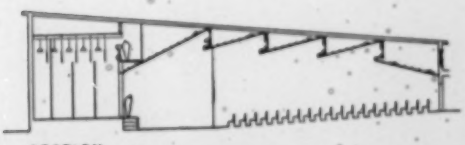


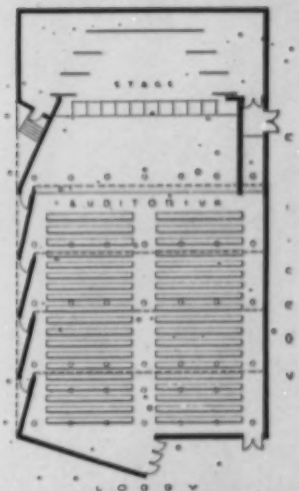
Across-page, the upper view shows the gymnasium, and the lower view and the diagrams indicate the auditorium. Especially satisfying is the way in which the acoustical baffles are designed to correlate overhead with the lighting, and at the left side with a system of exits. Also, the main entrance is so placed as to act as a baffle against light from the corridor during motion picture projection

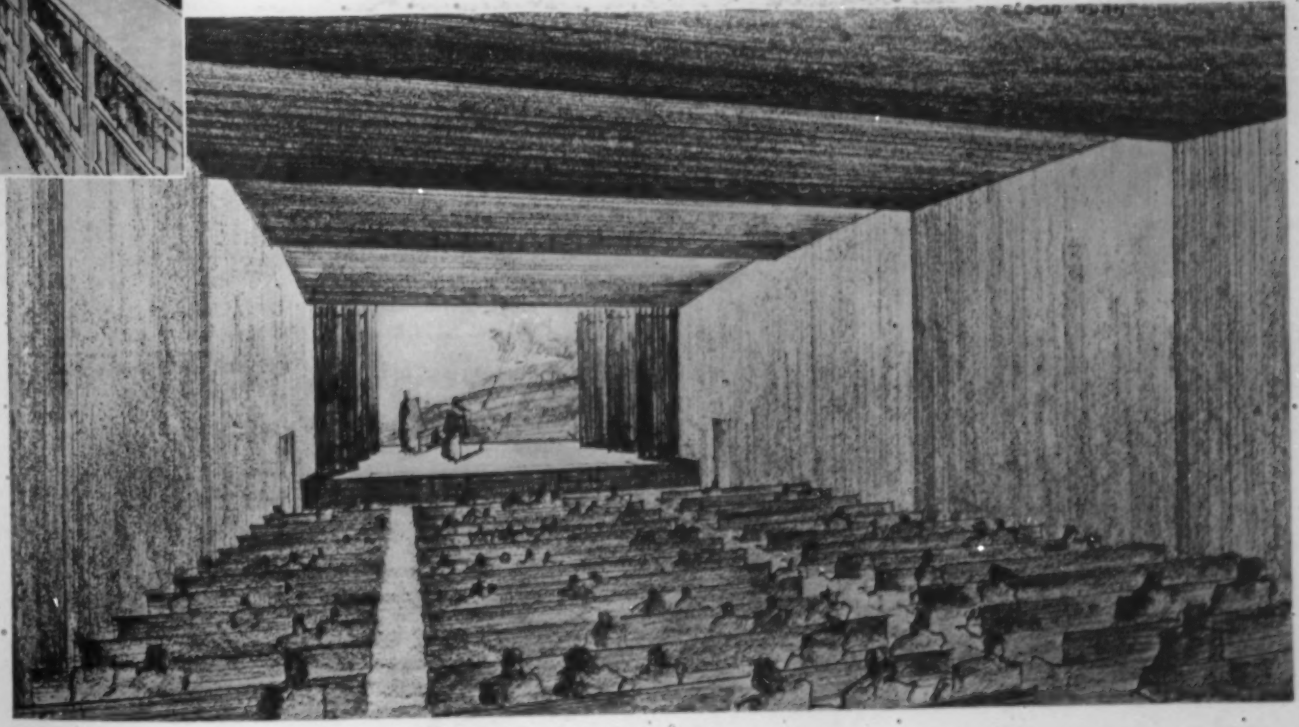


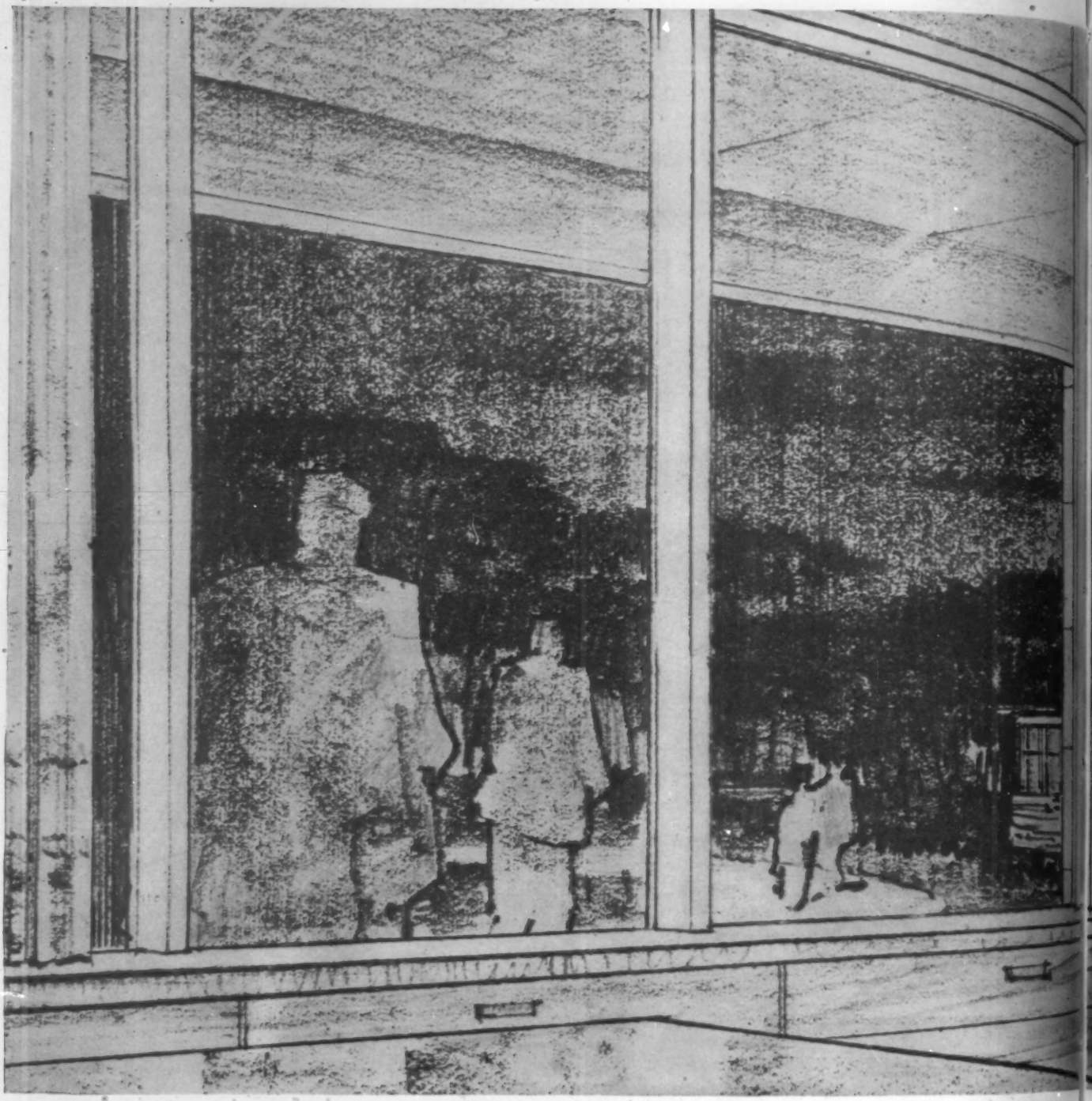



DETAIL

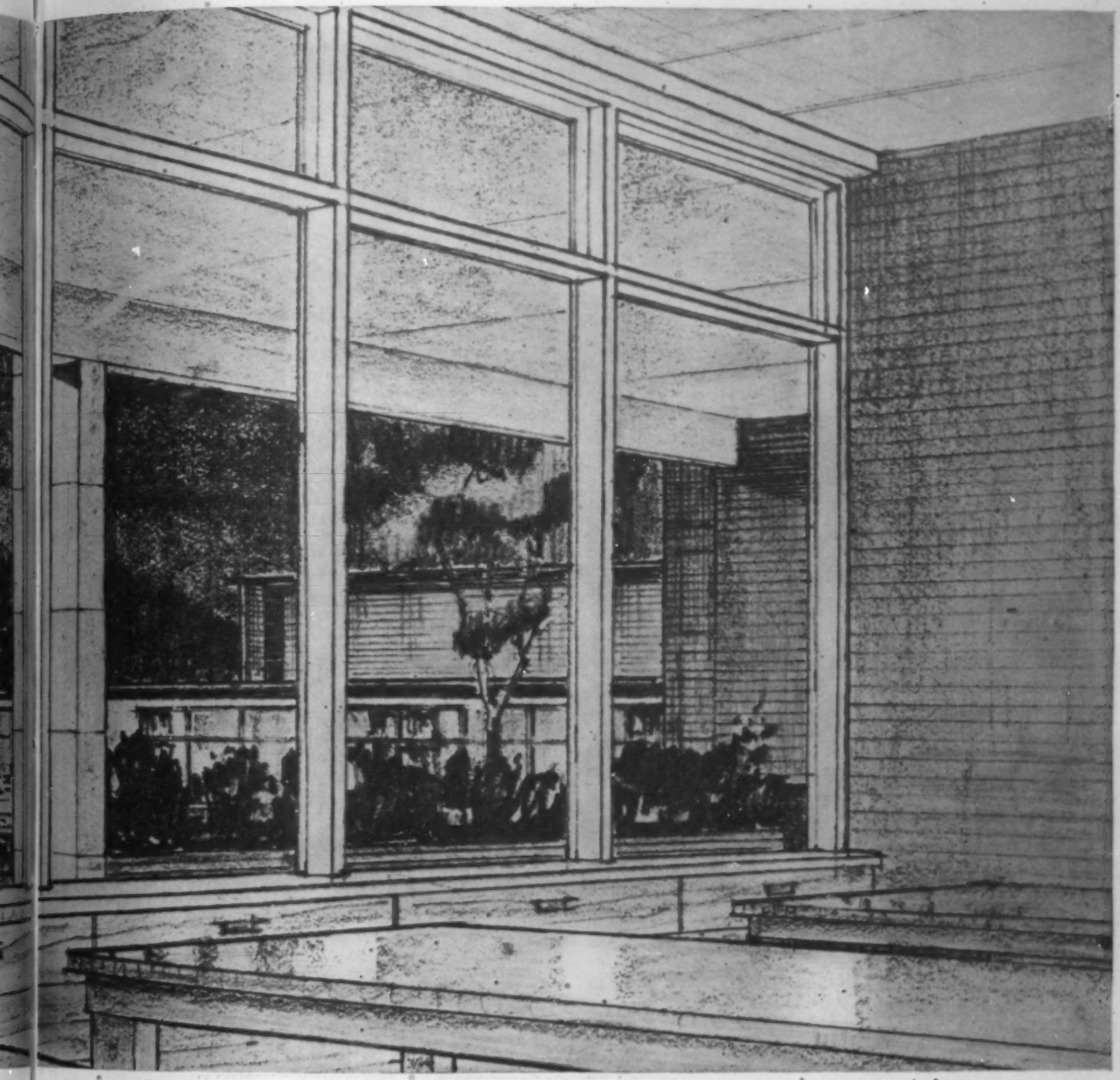

SECTION


STAGE
AUDITORIUM
LOBBY



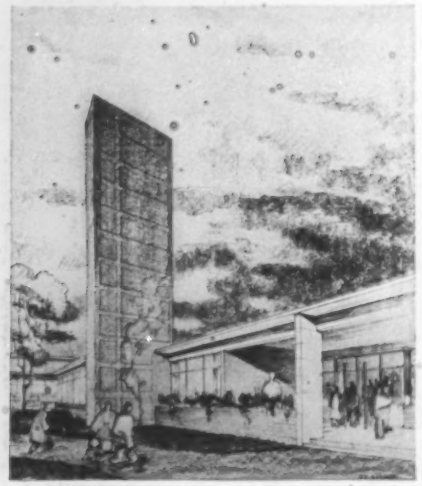


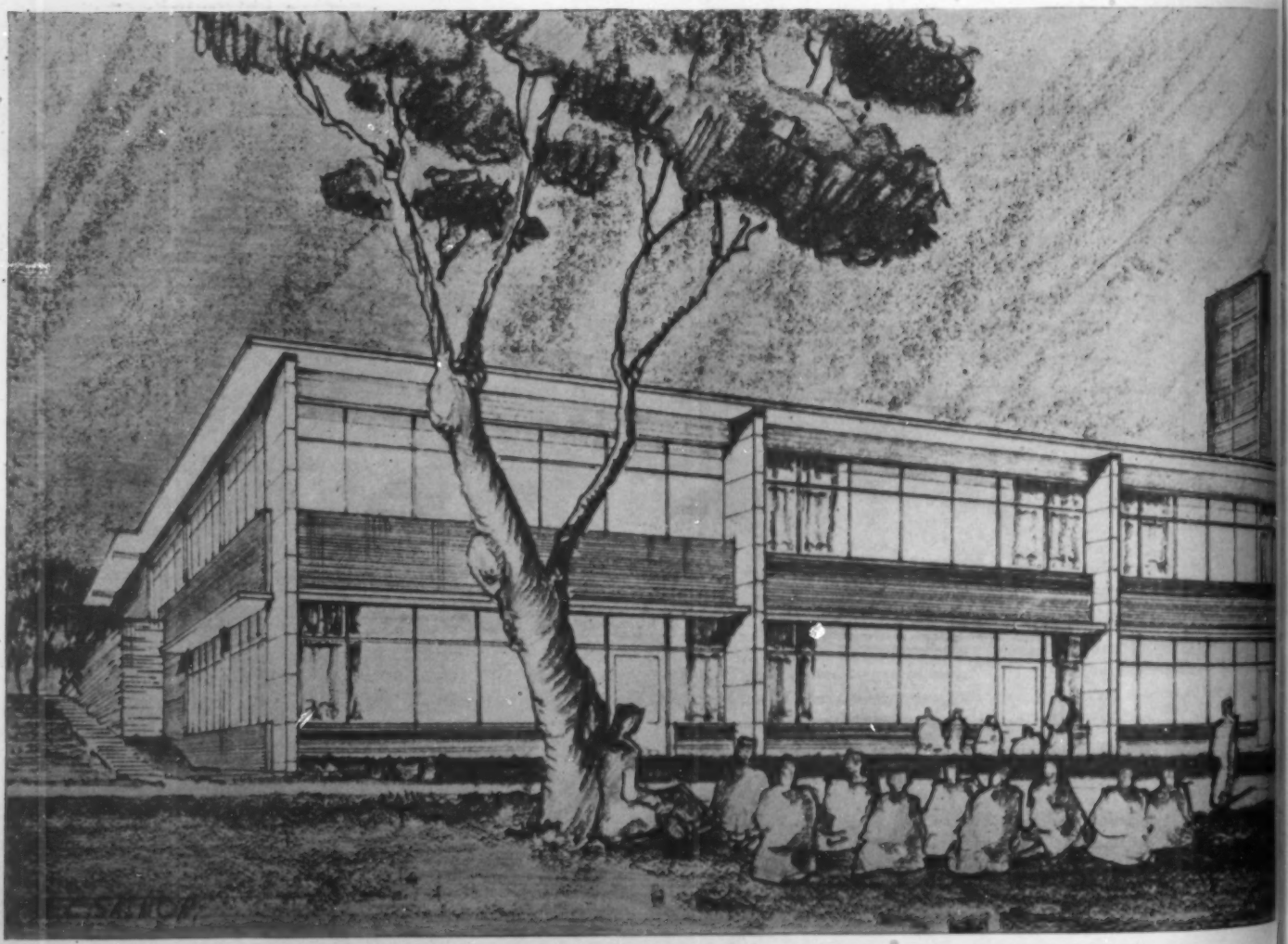
The view above is seen through the windows of the cafeteria. Like all windows in the school, these admit maximum view and light, but not even the maximum is a great deal in the prevailingly cloudy weather. To give an indication of the wide differences throughout the United States, the architects compiled data on average "sun-hours"—hours of unobstructed sunlight —in various cities. A part of their table is reproduced across-page. The school is not at Buffalo, but Buffalo figures are indicative for it. Note that, whereas Fresno in California gets 78 per cent of its possible sun-hours unobscured, Buffalo gets only 50 per cent. In mid-winter the difference is still greater, and in December, Buffalo averages only 2 hours of clear sun per day!

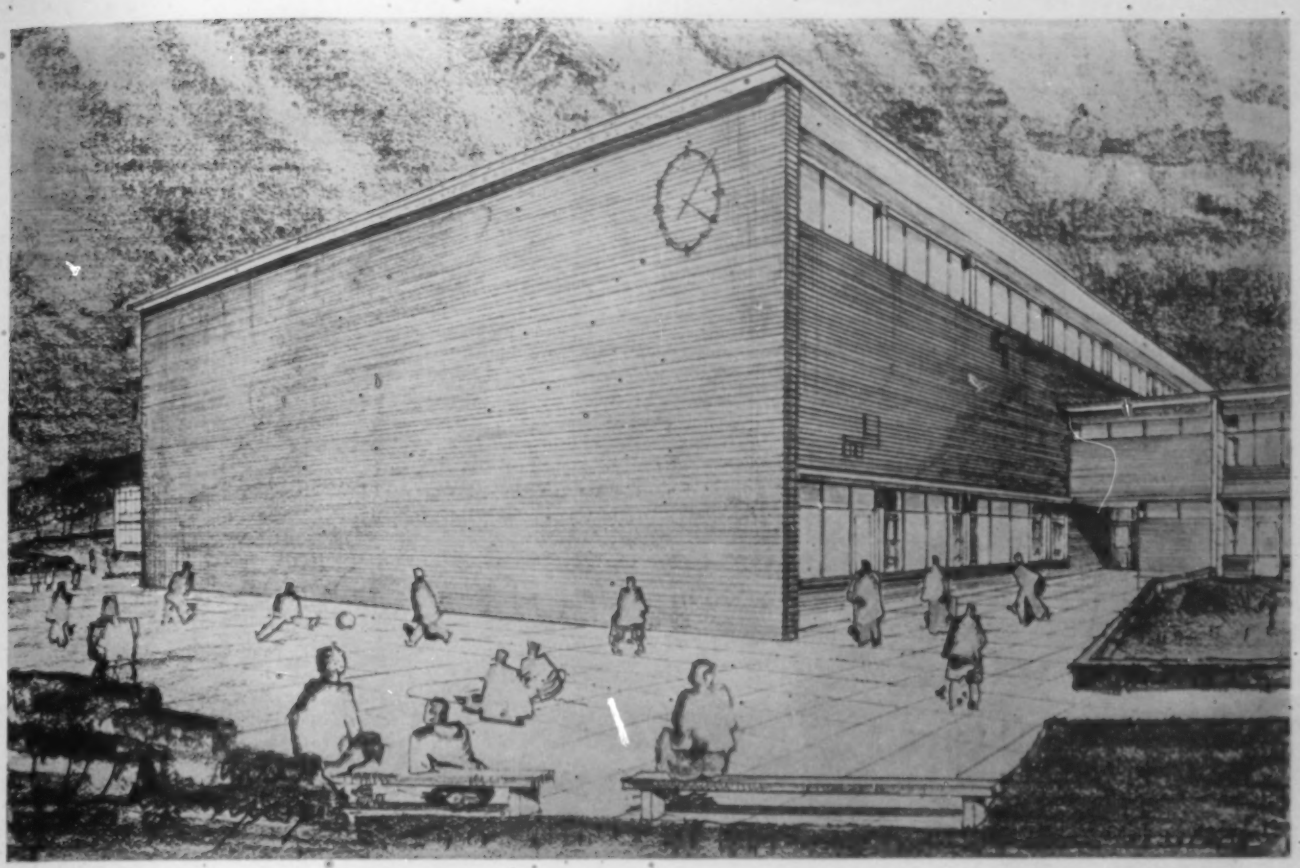


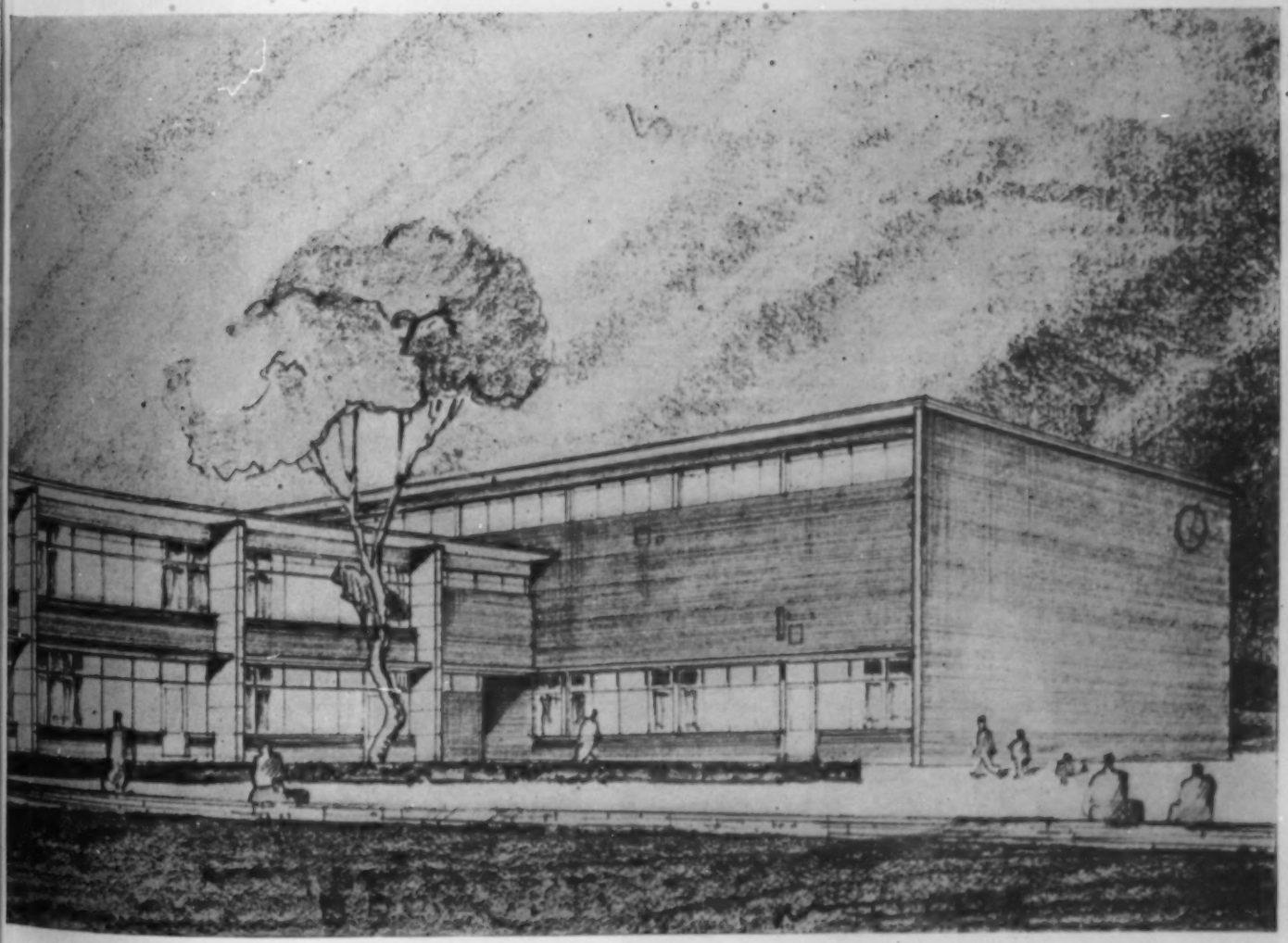
CONDITIONS OF SUNLIGHT	Fresno	Milwaukee	Atlanta	Buffalo
Actual sun-hours—average year	3568	2574	2733	2346
Possible sun-hours—average year	4580	4600	4640	4690
Approximate per cent of actual to possible sun-hours	78	56	59	50
Summer months (June, July, August)—actual sun-hours	1249	934	825	915
" " " " " —possible sun-hours	1306	1360	1304	1372
Approximate per cent of actual to possible sun-hours	96	69	63	67
School months (Sept.–May)—actual sun-hours per day, average year	8.5	6.0	7.0	5.3
" " " " possible sun-hours per day, average year	11.8	11.7	12.0	12.0
Approximate per cent of actual to possible sun-hours	72	51	58	44
Poorest month, average sun-hours per month	Jan. 135	Dec. 110	Dec. 147	Dec. 68
" " average sun-hours per day	4.35	3.55	4.78	2.19
" " per cent of average sun-hours to average possible	44	39	48	24

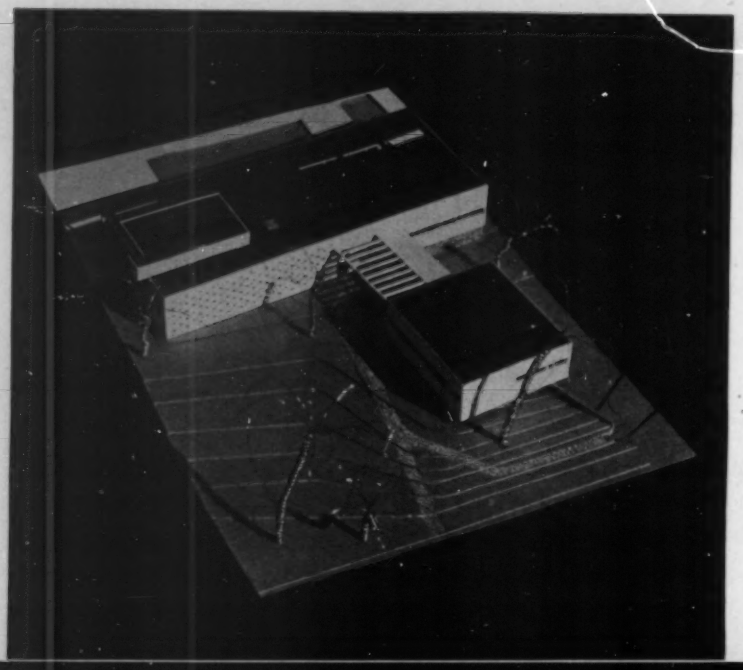
Here, at last, is the exterior that grew out of these interior provisions. The large view is of the lower, two-story level. The chimney-pylon, marking the entrance, has become in a degree the personal signature of the architects, and is the one concession to monumentality. At the top, across-page, is seen the end of the auditorium wing. Structure is to be concrete, heating radiant with auxiliary unit heater-ventilators. If arbitrary code requirements can be relaxed, the East will herewith obtain a school to stand with the best of the progressive West, though very different





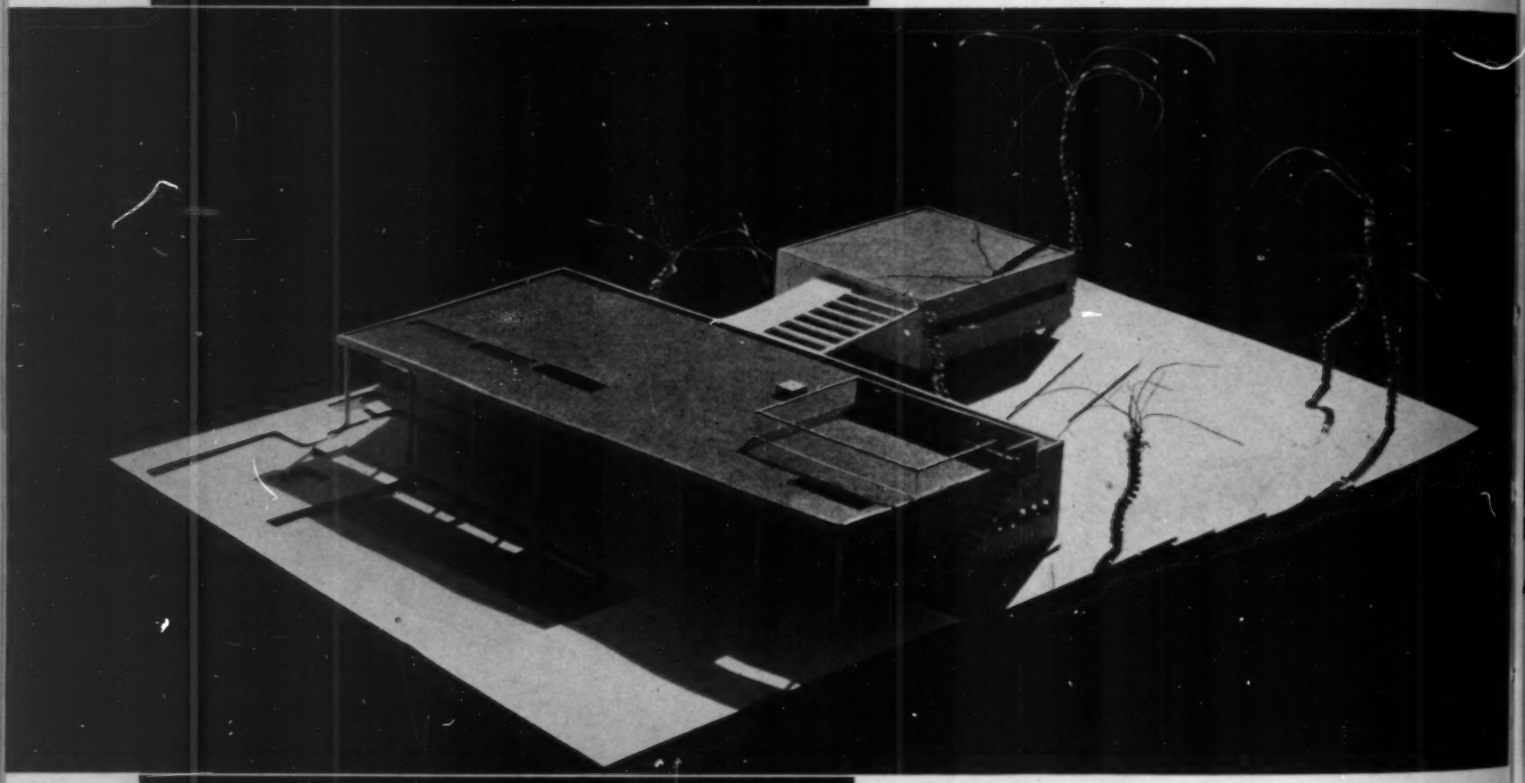


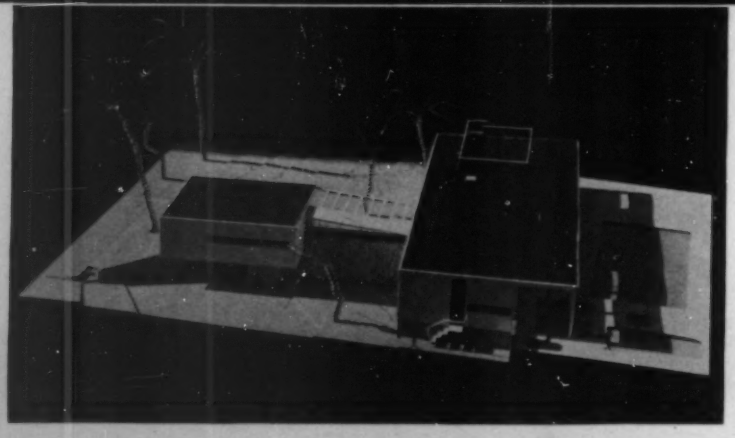




DISPORTING IN F

Marcel Breuer Architect

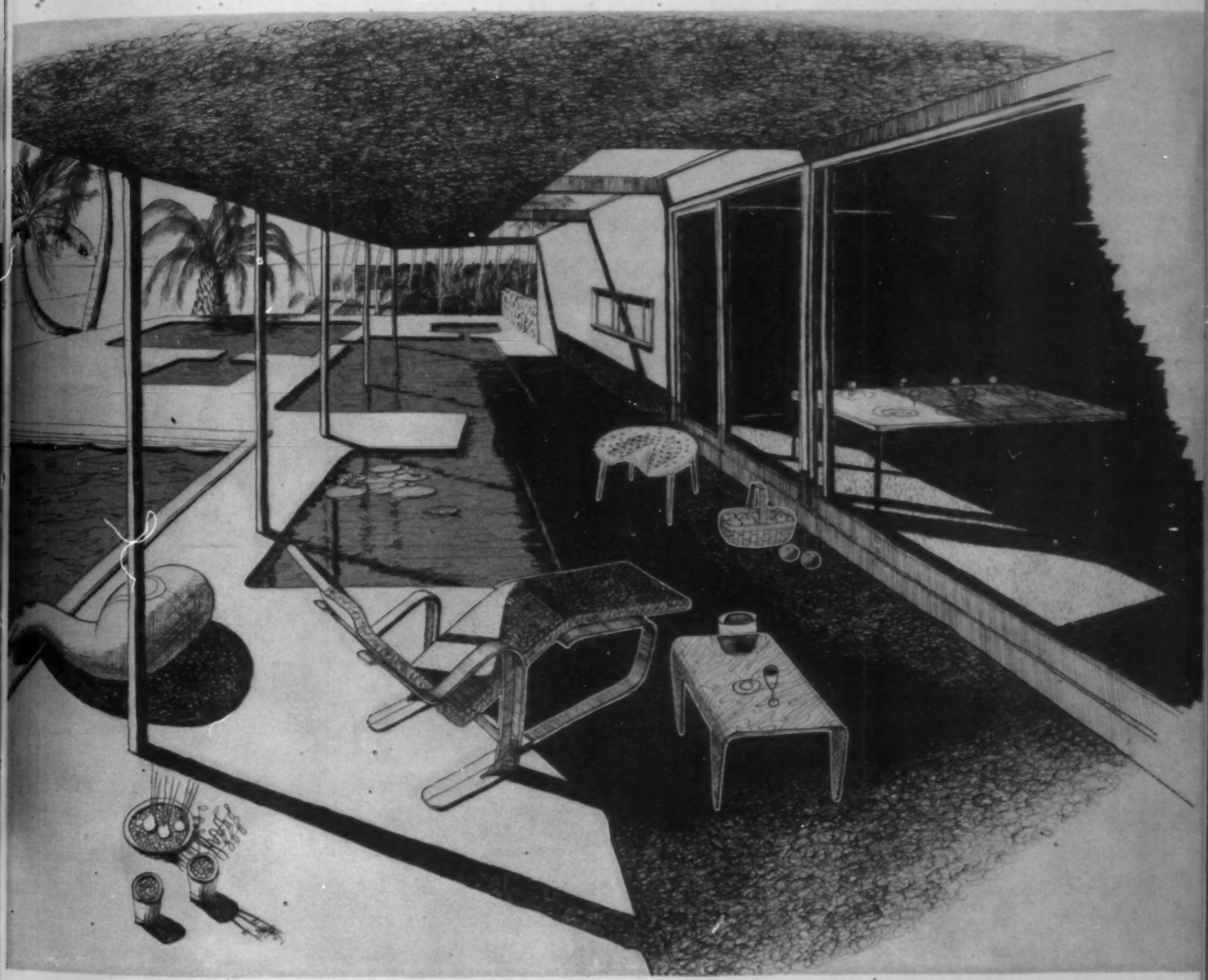




HASKELL Photos

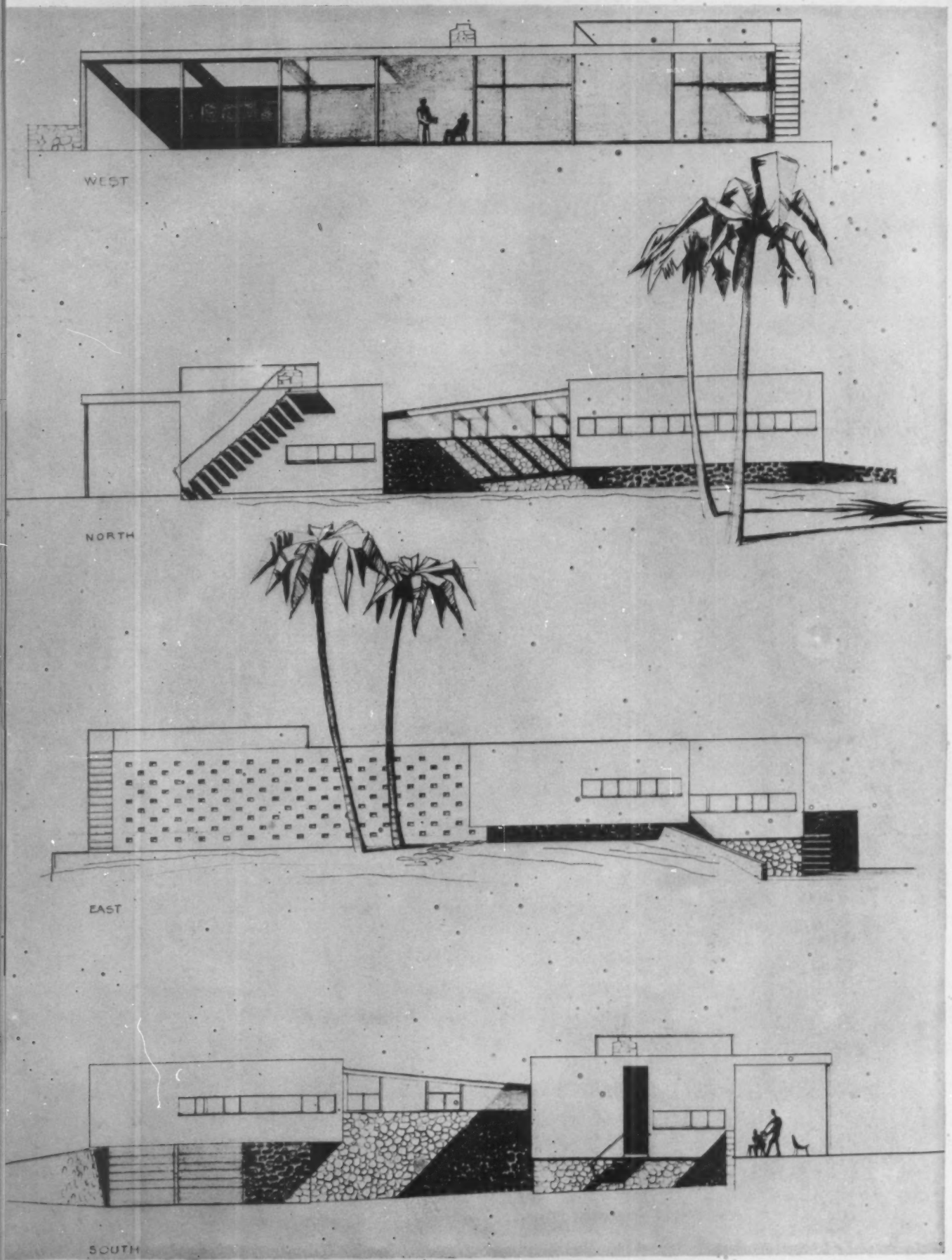
FLORIDA SUNSHINE

NO G. I. would have dared to dream of this seaside house, with its vari-colored fish pools on the terrace-porch, swimming pool just beyond the overhang, combination living-dining-gymnasium inside the glass wall. Yes, this is for one who can afford to indulge his whims, even if they run to colorful tropical fish in a series of pools tiled in different colors to give the fish exotic backgrounds. The house is playful throughout, in use as well as design. Bedrooms are in a separate structure, attached to main house only by a ramped hall.

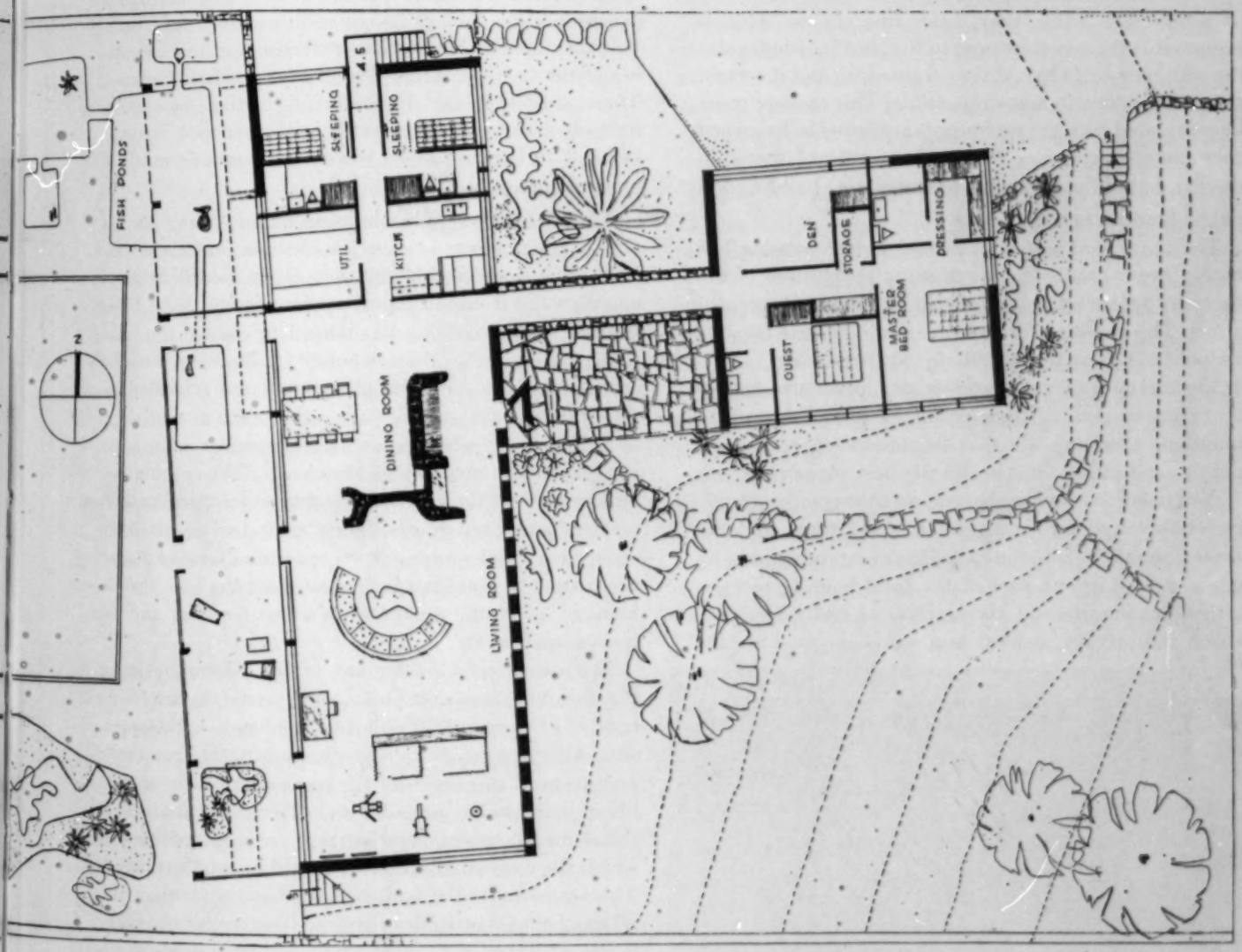


The design really started with an existing swimming pool on a flat site overlooking the Bay in Miami. The pool runaround was extended to encompass newly-built fish pools, and to extend at the same level into the house. Roof of main house for sun-bathing

Marcel Breuer's scheme for a Florida seaside house is playful in plan and landscaping as well as design



Located under the bedrooms, which are some three feet above the main house floor level, are garage and storage spaces, these then being adjacent to the parking-service yard and the service entrance. A ramped, covered hallway leads from bedrooms to the main house. Guest entrance to house portion is at the rear of the living-dining-gymnasium area. Exercise equipment in this area is conveniently near pool. Bedrooms in the main house are servants'



The architect carried out the playfulness of the design even in structural features. The rear wall of the living portion is of heavy masonry construction with an extensive pattern of small perforations, these being little glazed openings. Also, the stairs to the solarium on the roof are cantilevered out from the wall. The wall toward the waterfront is virtually a sheet of double glass, with three doorways for convenient access to the terrace

LOOK HOMEWARD, HOUSING!

By Vernon De Mars

THERE are two kinds of housing. First, there is the way people live when they have free choice. This is presumably the way they *want* to live, but it includes also the way they *could* live, if they wanted to, and if certain things were done to make it possible. This concept must be contrasted with the way people are *forced* to live when they have no choice — the case not only of the slum dweller, but of the occupants of speculative building and public housing as well.

The battle for better cities and better housing has hardly begun, although the growing recognition of the necessity for such a battle in itself represents progress of a sort. The opposing forces here are not private housing vs. public housing but good living vs. bad living.

The real adequacy of the newer and apparently competent construction, whether private or public, is open to question. Granting all the limitations of economics, politics and inertia, is it really the best we can do?

New operative builders' developments usually provide reasonably well for light, air and sanitation, and the typical, small, FHA-insured dwelling certainly marks an advance step in one part of the total housing picture, although sometimes at the sacrifice of really adequate space and privacy, indoors and out. Less good are the speculators' row-house solutions to the need for higher densities where lack of imagination provides fake individuality instead of solutions reflecting an understanding of the true needs and desires of individual families. There are few if any developments in the speculative field which carry conviction to the observer that "here at last is 20th Century living within the economic reach of most of the people."

". . . the architect likes to give the paper site plan a decisive shape, a center of interest and a well-defined entrance . . ."

When we turn to public housing we find that removal of the outstanding deficiencies of slum conditions has been such a preoccupation that other considerations, equally valid from the tenant's point of view, have been ignored. Public housing has tended to change the pattern of living rather than to enrich it. Thus the nursery school play area and the playground are provided as *substitutes* for the private yard rather than as additions to it. People get refrigerators but no porches, a community center but no doors on the closets. The speculative builder has not disregarded popular preferences in such matters and even if a chiming door bell is his only concession to sales appeal, it represents a desire to please the customer — at least long enough for the sale. Public housing "gives the tenant what's best for him, and no nonsense about it."

The speculative builder has placed all emphasis on the object of sale — the house, and ignored the neighborhood and community. Public housing has done the opposite. All emphasis is on the community or "project"; architectural expression of the community as an assembly of individual households and diverse private lives is subordinated to emphasis on those shared facilities in which the individual's interest should by implication lie. This seems to be the fault of designers rather than the result of official attitude or policy. The tendency of planners and designers to treat a housing development as a single and unified work of art is at the root of much conscious or unconscious popular resistance toward "projects." One example is a middle western development of better than average design and carefully studied color scheme. The project has been treated as a large canvas, and color pleasantly used in broad subdued effects. Whole groups of houses massed in one color contrast interestingly from a distance with other groups. For certain negative effects in this broad canvas, large groups of houses are occasionally painted a dreary dun — effective as a background for other houses and colors

but undoubtedly distressing to the families living in the houses or even to the visitor who finds himself surrounded by them.

Any large development is or should be an integral part of the city. Its "protected" character should be physical; that is, it might be circled by parks, etc., for practical reasons. Its "protected" character should not be psychological to the extent that the development seems to exist apart from the city or from the way the rest of the city is, likely to be, or ought to be. But this is a prevalent error. Albert Mayer, reporting on a survey made for the Federal Works Agency, observes that most projects give one "a feeling of shock, as though the project just happened to be dropped into location." In contrast, he found particularly pleasant a project "which gave the feeling that one was simply entering a part of town rather nicer than the other parts."

If a development has 50 units, the architect likes to give the paper site plan a decisive shape, a center of interest and a well-defined "entrance to the project." As a result, the project seems to turn its back on everything around it. I may appear on dangerous ground here, for these would all seem to be innocent, even laudable, objectives. But what happens if the development is to have 100 houses, 500, 1,000, 5,000? It is still looked upon as the same entity. It may now have several "entrances." But there will be much less concern now with the "form" of any 50-unit part. The change in scale has given the designers a changed attitude toward the importance of that block of 50 families: now they are just another group which helps to support a really big "center of interest" in the total scheme. But to the individual nothing has changed.

I raise these questions as one who has not been without guilt in such matters and who is therefore quick to recognize the phenomenon when it occurs — which is often.

Why should houses planned for rental be a totally different product from houses built for sale, even though the requirements of the respective tenants may be identical? Why are large-scale developments (usually, though not exclusively, public) so coldly impersonal and institutional-looking — not at all what the tenants would like if they had any choice? On the other hand, why is the average speculative development such a naïve and miserable example of modern achievement as compared with our motor cars, bathrooms and kitchens?

Let us consider the speculative (or operative) builder first, as he provides the bulk of new housing in the country and his efforts to a large extent determine the appearance of our cities. There is reason to believe that the characteristic pattern of such housing is *not* based on economic or social facts, although this pattern is so much the rule that it is considered fundamental. It is more likely that the pattern is the result of our uncoordinated, unrelated, compartmentalized methods of financing, producing and marketing housing as though it were so much yard goods here, so many bushels of wheat there, to be liquidated as easily as possible in the market place. Cloth and wheat are in a sense still raw materials rather than consumer products. They will be removed by the purchaser and fashioned into the desired end-products by the skill of dressmaker and cook. But housing cannot be removed from the market place for skillful blending into the wanted end-product: a satisfactory living environment. This blending must be done beforehand. When the products are finished, bright and new, all lined up and assembled in a great quantity for the installment plan or bargain counter, it is too late.

But what's wrong with housing that *is* planned? At the risk of oversimplifying a very complex problem, I claim that we usually go about the provision of housing in a wholly backwards manner. We take a piece of land and its cost, several financing methods and their costs, some construction systems, building codes, and zoning ordinances, and feed them into a hopper. After sometimes many and sometimes few turns of the handle, out of the bottom drops the neat solution which purports to be a synthesis of all economic and social factors. We are sometimes a little proud of the inevitability of this result — it seems so much like a scientific approach. The "solution" may read: "10,000 families can be most economically housed on this site in 12-story apartments" or "low-income families are best collected into groups of 500 to 1,000 families and placed in identical row houses which they must of course vacate when they no longer need subsidy." These are the neat, cold, so-called scientific, and, by implication, inevitable solutions.

Is either of these "solutions" the way all families under consideration *want* to live or indeed *ought* to live or *need* to live?

Another tendency which leads to similar results can be charged against the well-meaning designer of large-scale housing. The specific problem at hand is analyzed, and the tenants or clients being as yet anonymous, it is felt safe to generalize and say that any adequate solution will probably work as well for one family as for the

". . . architectural expression of the community as an assembly of individual households and diverse private lives is subordinated to emphasis on shared facilities . . ."

next. Thus again the resulting housing pattern is likely to consist of an average unit and type solution for a limited social or income group — provided in numbers as great as the site, the city, or the program will bear. This seems to be the case whether we are considering FHA Title VI units for sale, an FHA rental apartment development, a public low-rent housing project, a speculator's medium income efforts, a large insurance company's venture into the housing field, or some of the developments abroad which may have been too uncritically imitated in housing solutions here. The purely visual effect of such design is dehumanizing and the lack of visible three-dimensional expression of the varied needs and desires of individuals is emotionally depressing to many people, whether or not they realize the cause.

A growing body of opinion both here and abroad is questioning these neat and accepted patterns of contemporary housing, private and public. The considerations involved are so basic that, if ignored, a continuance of present housing practices and patterns may doom a large part of new building after the war to physical and social obsolescence. The questions raised by these observers deal not so much with amazing new devices, methods, and materials which will sweep into the ash heap all known housing solutions, they concern more nearly a reappraisal of the results and trends in the mass provision (if not yet mass production) of housing. Not at all in a reactionary sense, they deal with important human and social values often found existing under uncontrolled conditions and at times lost under carefully planned conditions. They suggest the need for an end-product which first of all reflects the desires and needs of the people. What Hugh Pomeroy, Executive Director, National Association of Housing Officials, has to say about the city in general also applies to housing in particular: "The character and design of the general development of the city should not be determined primarily by formulae but by desiderata and standards that express the kind of cities we want — the kind that best serve the needs of the people in the particular situation, and their seeking for a satisfactory living environment."

There are tangible social dangers inherent in the type of developments we have been considering. The English, with a far greater experience in mass housing than our own, have come to such a conclusion. A study by the National Council of Social Services in 1943, commenting on over a million units of municipal housing and 2½ million in private developments, has this to say: "All this work has brought many problems in its train since the social implications of what was done were recognized only after the event . . . defects of the earlier programs should be noted in order to avoid repetition. . . ."* Their next comment deals with the high costs and difficulties of living in developments too far removed from a worker's job. Second only to this in importance, however, comes the following: "Class distinctions have been emphasized to an undesirable extent by the segregation of rigidly divided income groups into separate residential districts, many of which contain 2,000 or more families in which the principal wage earner drew less than £3 per week in peacetime. The consequence of this segregation is that new municipal estates contain relatively few people with varied experience in social leadership. Where leaders are lacking it is more than usually difficult to build up a community life. This difficulty is accentuated by the construction of what are often called slum clearance estates. The institutions which the residents left in their old neighborhoods have been reproduced in the new ones very slowly, often not at all."

Another British opinion of the physical and social pattern comes from a recent report of the Ministry of Health advisory committee on housing: "The introduction into every scheme at suitable points of a few detached houses and pairs of houses, not only relieves the monotony of terraces (group or row houses), but will give extreme satisfaction to many tenants. But a scheme wholly composed of detached or semi-detached houses tends to be monotonous. The best results can be achieved by a mixture of these with terraces of varying length, even up to 10 or 12 houses, subject to the following reservation: It is essential that every house shall have access from the front to the back without going through the house or anyone else's garden. Two-story flats for aged persons, and higher blocks of flats for single persons and definitely non-family householders, in relatively small proportions, could in some cases be introduced into housing schemes, and if well designed and placed would add to their architectural interest."

The London County Council's official plan for the rebuilding of London recommends: ". . . rehousing in terms of a mixed layout of houses and flats with the proportion of one to the other varying according to local conditions and requirements, thus producing a desirable variety of treatment. . . . It is suggested that, for the large and medium-sized families, houses with individual gardens should be provided, though some groups of houses might have the gardens combined to form communal open spaces. We consider that housing in the form of terraces or group row houses, whether straight, curved, or as squares, is the most suitable type for central areas. . . . A great variety of treatment in the layout and appearance of the reconstructed areas should be possible. . . . For flat development, we suggest the use of two-, three- and four-story types without lifts, and that where they exceed four stories in height, lifts should be provided. . . . A certain number of high blocks up to ten stories might prove popular, in particular for single people and childless couples. The large areas of open ground, which are necessary between high blocks of flats to insure adequate air and light, could be used for communal gardens, allotments, children's playgrounds, tennis courts, flower beds and communal buildings such as nursery schools and social centers. By these means a great variety and interest and a wide range of choice of dwellings would be achieved."

* National Council of Social Service, Survey Group, The Size and Social Structure of a Town. London, George Allen and Unwin Ltd. (Sir Halley Stuart Trust Publication, 1943).

Another excerpt from "The Size and Social Structure of a Town" summarizes the English viewpoint: "One basic principle emerges from past experience. It is that every planning scheme should aim at producing one or more 'neighborhood units,' each fitting into the town to which it belongs, and *each containing a socially balanced population.*"

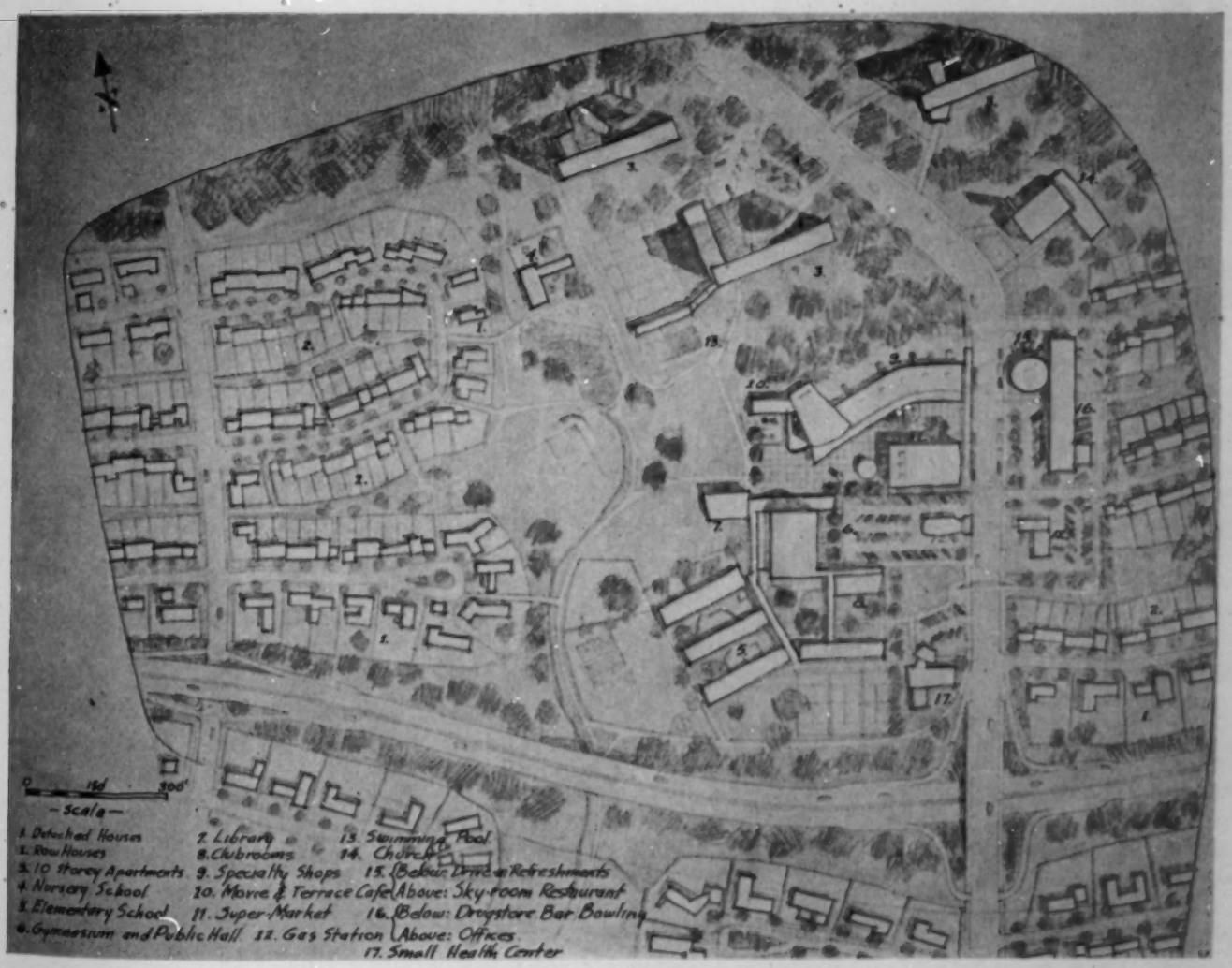
This of course is English experience, but the same issue is raised in relation to the American scene by Miles Colean, former Assistant Commissioner of the FHA. In the *Architectural Forum* for October, 1943, he writes: "There seems no sound reason why a neighborhood should contain exclusively one type of housing, one level of density, or one narrowly restricted group of residents. The tendency toward what FHA refers to as homogeneity may be overplayed, whether it be the types of houses or the incomes of their occupants, to the disadvantage of neighborhood stability and a democratic way of life.

"Diversity, of course, can, like uniformity, be carried too far. We have to recognize again that we are dealing with people who have preferences and prejudices as to the people around them. To the extent that such attitudes exist, they are facts that must be taken into account by the planner. The difficulty is in knowing positively to what extent they are facts, rather than something the planner himself takes for granted, and to what extent and through what means they might be successfully overcome should he have good cause for doing so. Here we need more enlightenment and perhaps greater willingness to experiment."

There will obviously be *no* solution to the housing problem unless much of our wartime productive energy is turned to this end. But it is equally obvious that, even if we use all that energy and know-how, the *right* solution will be far from inevitable.

The more hopeful of recent proposals seem somewhat mellowed, and the basic issues of a few years back are no longer invariably presented as black and white. There is nevertheless too much complacency — not merely with outmoded patterns, but with the bright new solutions of the last decade.

Once again a housing crisis faces the country. This time, however, there exists a great fund of housing experience to draw upon. If the surprisingly consistent conclusions of the critics are heeded, we may begin to see solutions which will truly reflect people's varying needs, desires, aspirations and pocketbooks.



To offer free choice of apartments, row houses, or single houses in a complete community, this project was planned by Vernon De Mars

Outdoor living centers in the spacious patio with its terrace and de luxe barbecue. Wide roof overhangs shield the expansive g walls in su

SHOW PLACE LIKE HOME

Postwar house, Fritz B. Burns Research Division, Los Angeles, California

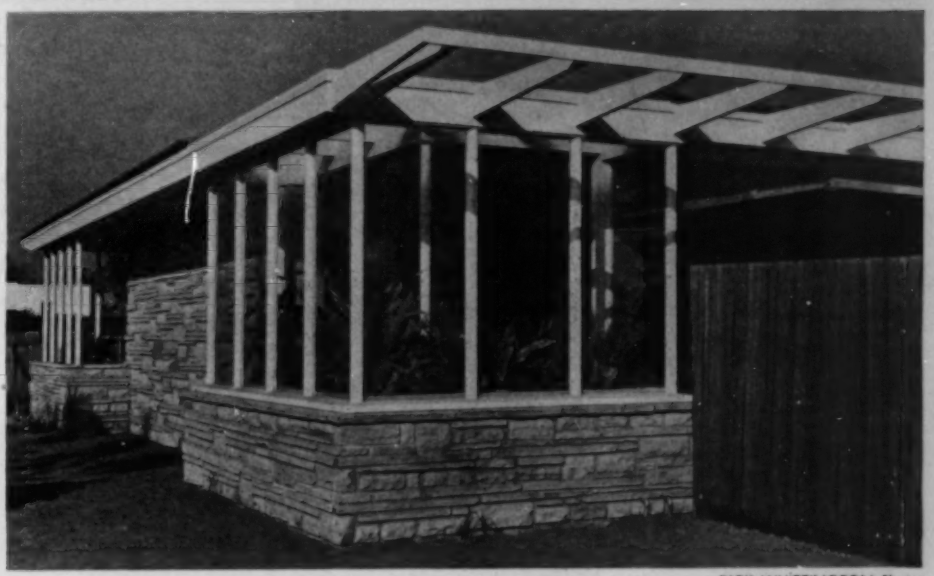
Wurdeman and Beckett, Architects

Eckbo, Royston & Williams, Landscape Architects

Joseph H. Schulte, Research Director

Bullock's, Inc., Decorators

Fritz B. Burns, Builder



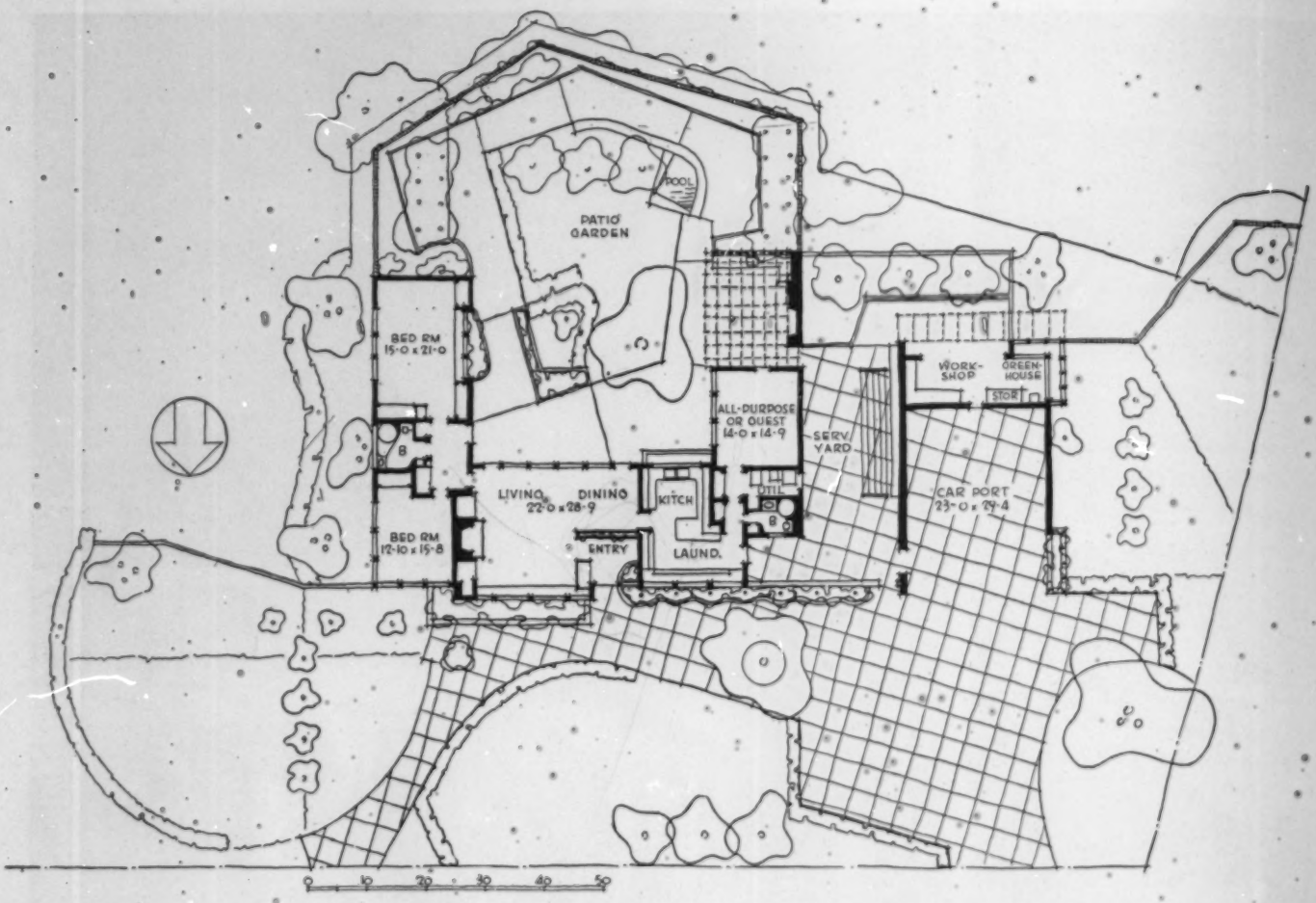
DICK WHITTINGTON Photos

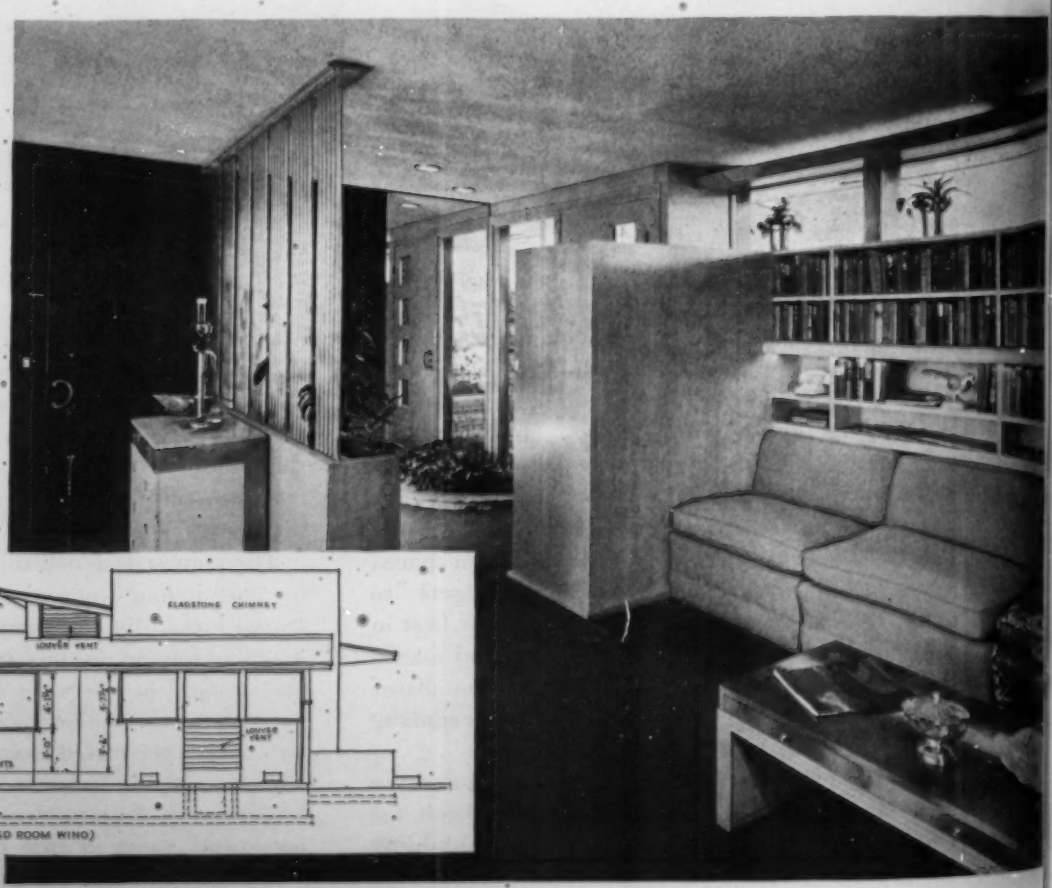
walls in summer. Top, the entrance front. Below, the greenhouse end of the carport

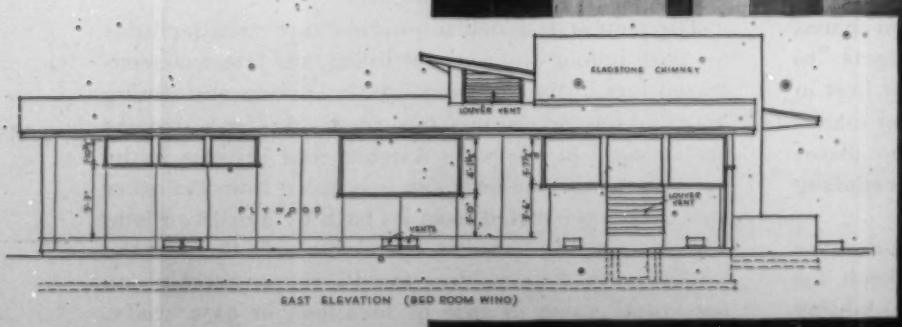
DESIGNED to enchant, astound, and inspire the home-loving public, this exhibition house displays a multitude of novel ideas, innovations, and devices. Manufacturers have supplied, and architects have incorporated, almost every known (and some till now unknown) contribution that our mechanical age is making to the ease, comfort, and delight of the prospective home builder. No expense has been spared in providing the utmost in glamour and gadgets "to bring into the focus of public opinion the very best in postwar thought that architects, builders, and manufacturers have to offer." This house has no direct relation to Mr. Burns' other activity of producing low-cost houses with Mr. Henry Kaiser.

For this super-showplace, salesman Schulte, as head of the Fritz B. Burns Research Division for Postwar Housing, searched endlessly for building products and equipment among the nation's leading manufacturers. Visitors will marvel at the results of applied ingenuity and opulence, for in this five-room house, are enough devices, material, and equipment to entail an expenditure of some $75,000. The site on the famous Wilshire Boulevard was naturally chosen for show and maximum traffic, and so justifies the land cost reported to be $75,000.

The plan is designed to provide maximum facilities for both indoor and outdoor living, the latter concentrated largely in the sunny patio. Living and dining are combined in one spacious room. Master bedrooms are en suite in one wing, kitchen and utilities in the opposite wing. One bedroom is isolated from the other two, and is separated from its bath by a utility room. This all-purpose bedroom (available only through the kitchen) could be used as maid's room, guest room, (or "pest" room in case of measles), or as a study, office, game room, or den. Outdoor living facilities





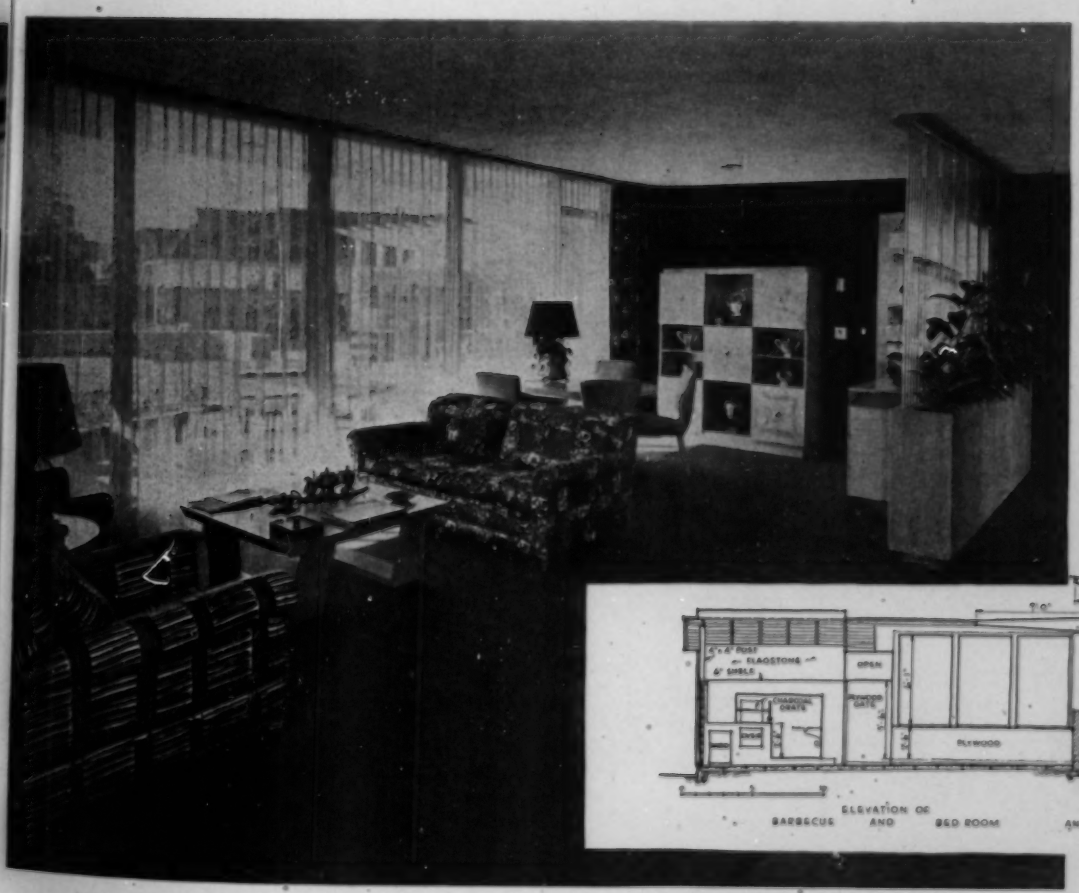


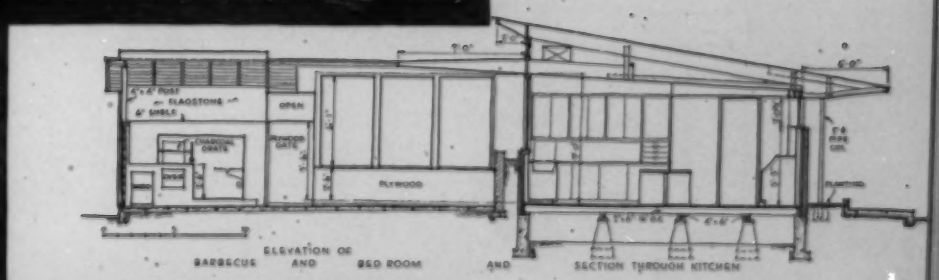
EAST ELEVATION (BED ROOM WING)

provided in the patio include an elaborate fully-equipped barbecue. A covered way leads to the car-port and the combined greenhouse and workshop, with its electrically operated roll-up aluminum door.

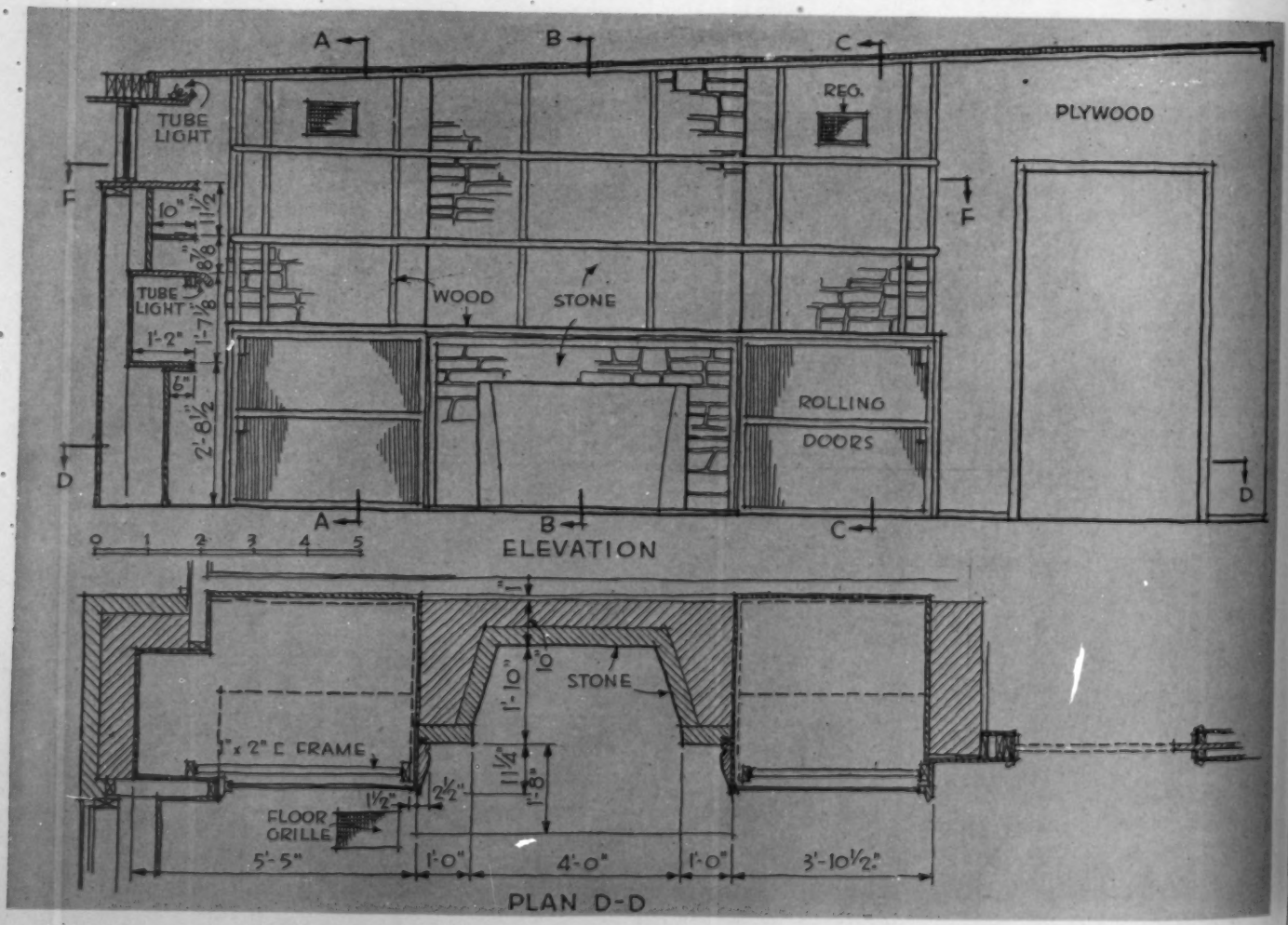
The exterior is of stone, glass, and varnished California redwood plywood, and the roof is a new type of shingles 1 ft. by 8 ft., with thick, shadow-casting butts. These shingles are of insulating board covered with bright sheet aluminum. All ceilings are acoustically treated, and doors are soundproofed. Window areas are of double glass and the house is thoroughly insulated, as every air conditioned house should be. The complete air conditioning system is controlled by the latest thermostats and an electronic air cleaner eliminates dust, pollen, and therefore allergies. The lighting engineering is ingenious and thorough, using flush diffusing devices, fluorescent and neon; light everywhere for inside and out, for seeing or display. A continuous electric outlet strip at the baseboard permits plugging in of electrical appliances at

Plant shelf and corrugated glass panel separate the entrance foyer from the dining end of the living room. The coat closet wall terminates the north bookcase wall with its clerestory lighting. Neon strip lighting, centered on the bookcases can be controlled for various intensities. The sectional seats forming the sofa can be moved out for conversation, home movies or television



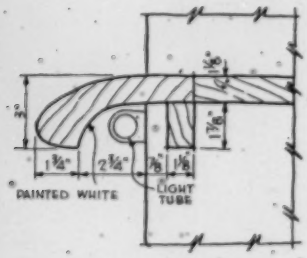


Living room fireplace is flanked with tambour-doored cabinets and decorative lattice backed with illuminated foliage



any point in the room. Light switches are flush plastic glowing push plates. Pressure on the flush plate operates a low voltage solenoid which in turn operates the switch proper. Radios or loud speakers grace every room, with television in the living room. An intercommunication system also is provided. Electronic and control features of the house were developed by William W. Brockway.

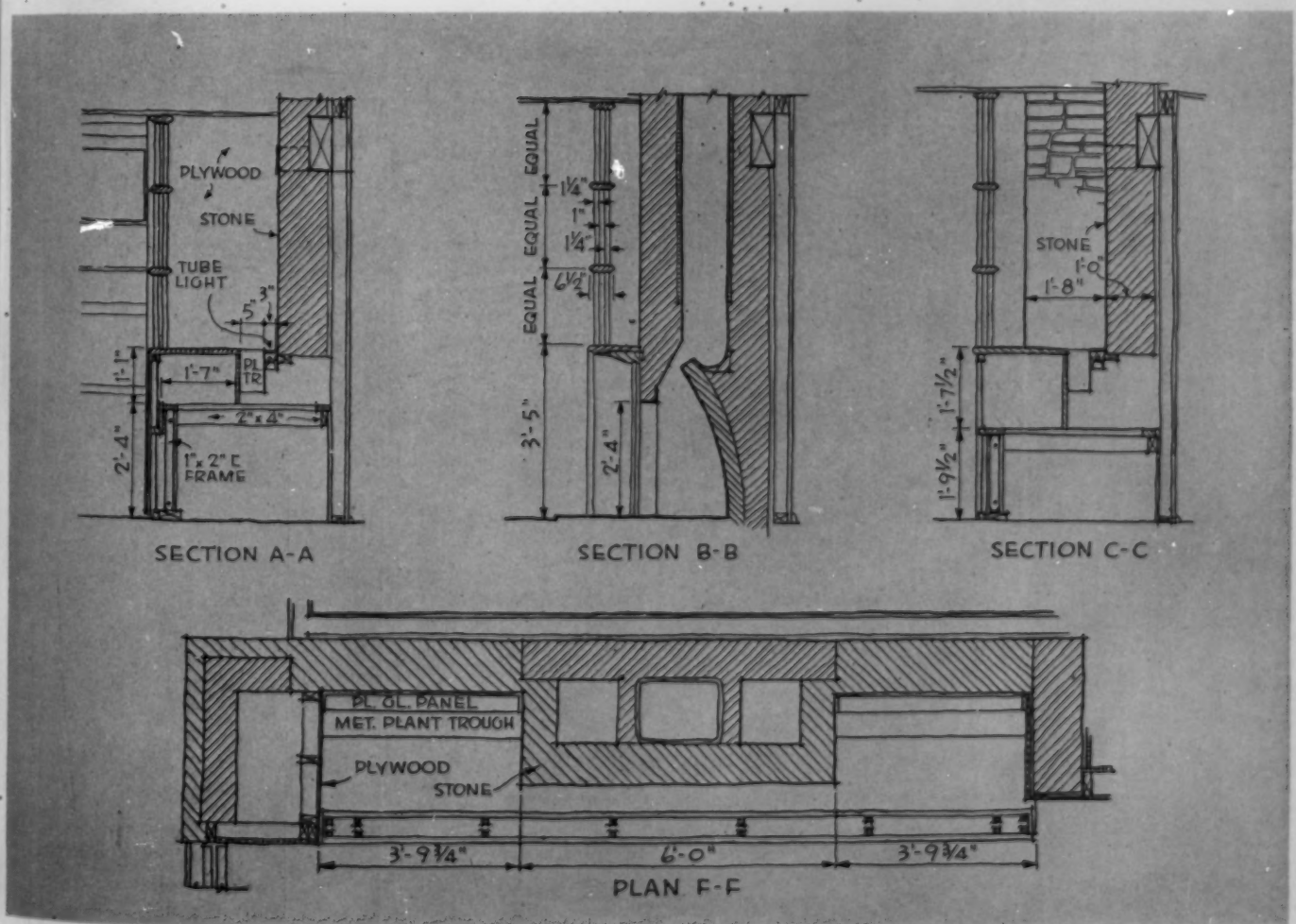
Bathrooms simulate projected "packaged" baths, complete with silent-flush tankless water closet, adjacent radio, and magazine rack. A plastic, turret-type shower is part of the well-lighted tub. A circular illuminated, magnifying shaving mirror is above the compartment containing the electric toothbrush and shaver, both on retractor cords. Sun lamps, drying lamps, and radiant gas heaters are built in.

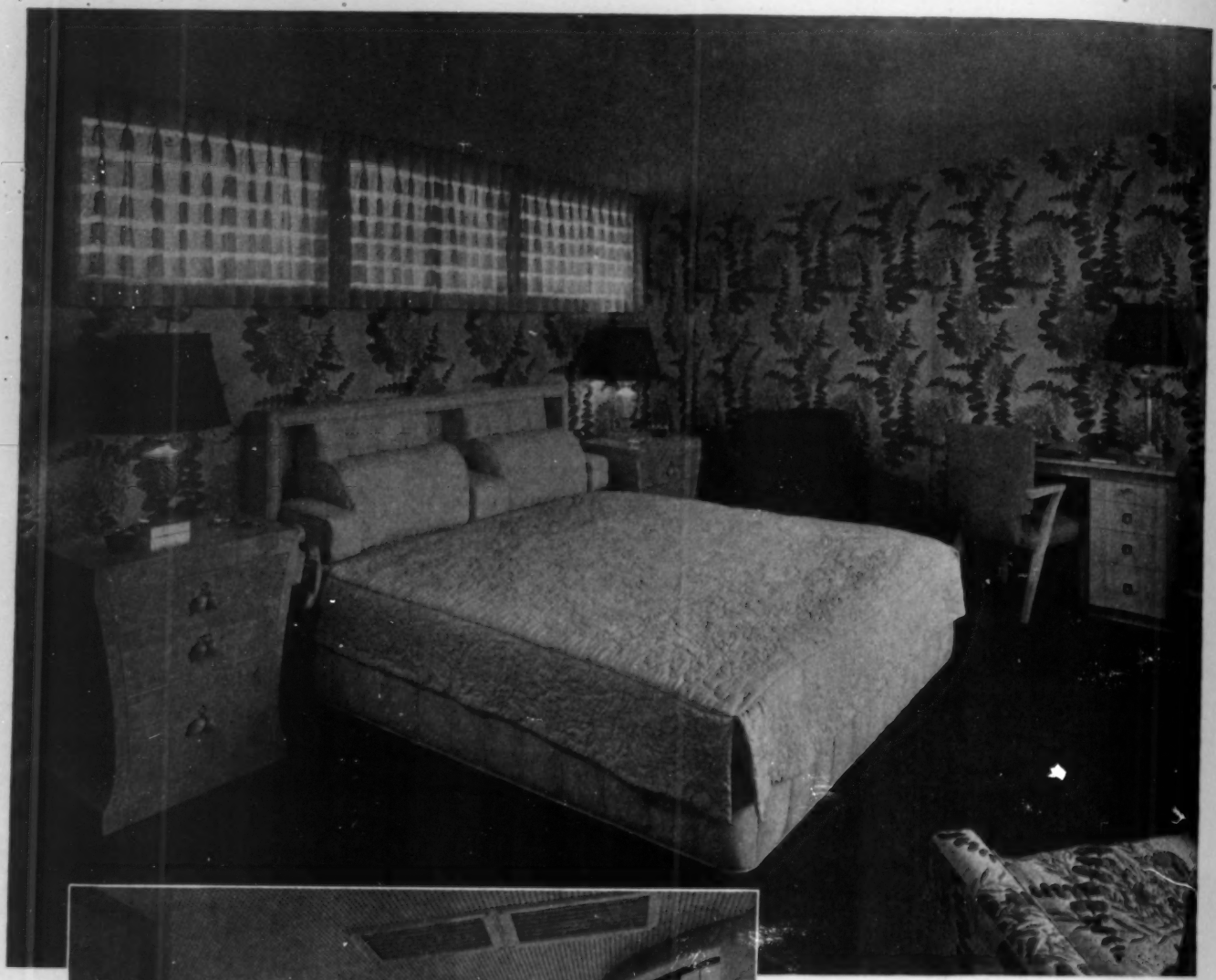


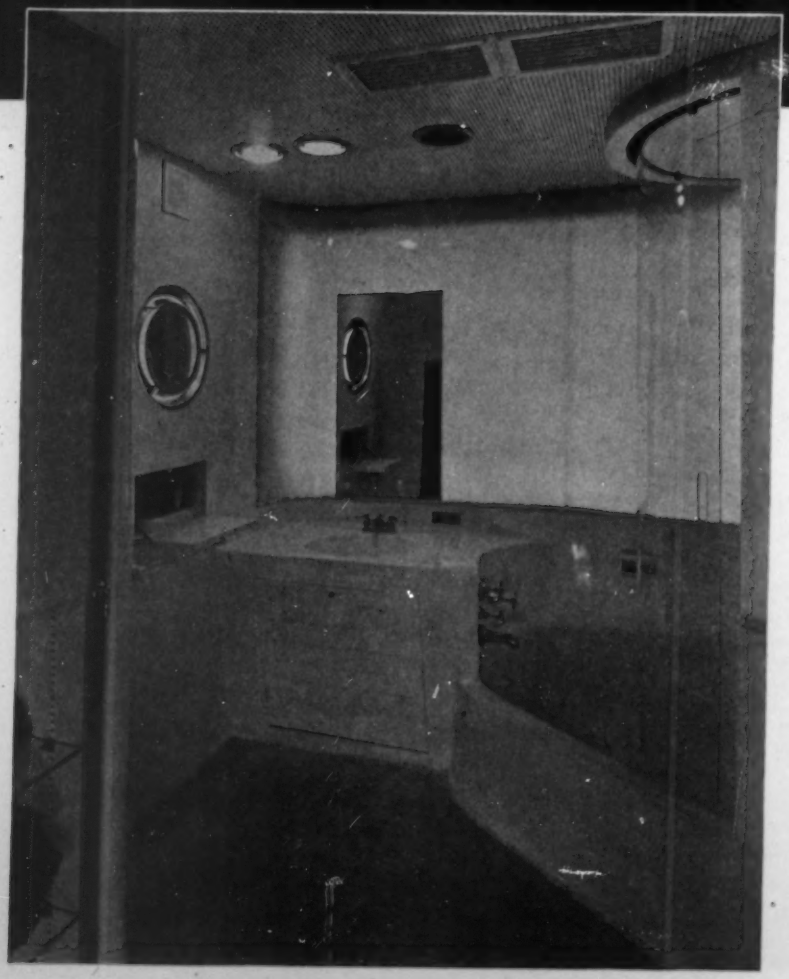
Section, bookcase lighting

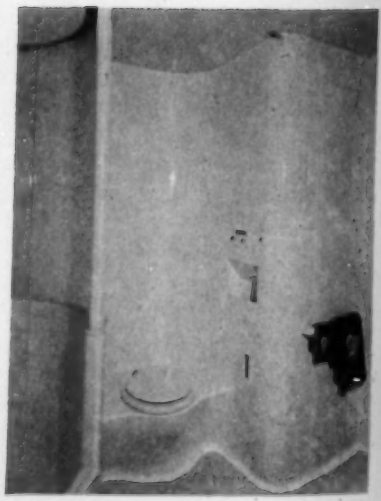
The kitchen has everything: ultra-modern range, with the four burners across the rear, electro-chemical garbage disposer, automatic dishwasher, revolving shelf cupboards, counter-height console-type refrigerator, a frozen food cabinet, desk, sewing machine, dining table, and cabinets galore with vertical sliding doors. Kitchen ventilation is arranged to carry odors and heat or gases from equipment, directly to the outside air to prevent recirculation through the house. Laundry equipment includes tray, automatic washer, dryer, mangle, and ironing board. The housewife's desk in the kitchen is the nerve center of the house, for here are the controls to operate the sprinkler system, to open the garage door, or to communicate with other parts of the house. The barbecue is a complete outdoor kitchen, as it has its own refrigerator dishes, storage cabinets, sink and, of course, its grill and oven.

The utility room, though small, contains the complete air conditioning system. Both fresh and recirculated air pass through the electrostatic filter, are heated or cooled, humidified or dehumidified, and delivered to the rooms at ceiling level. The system of controls is as automatic as possible.

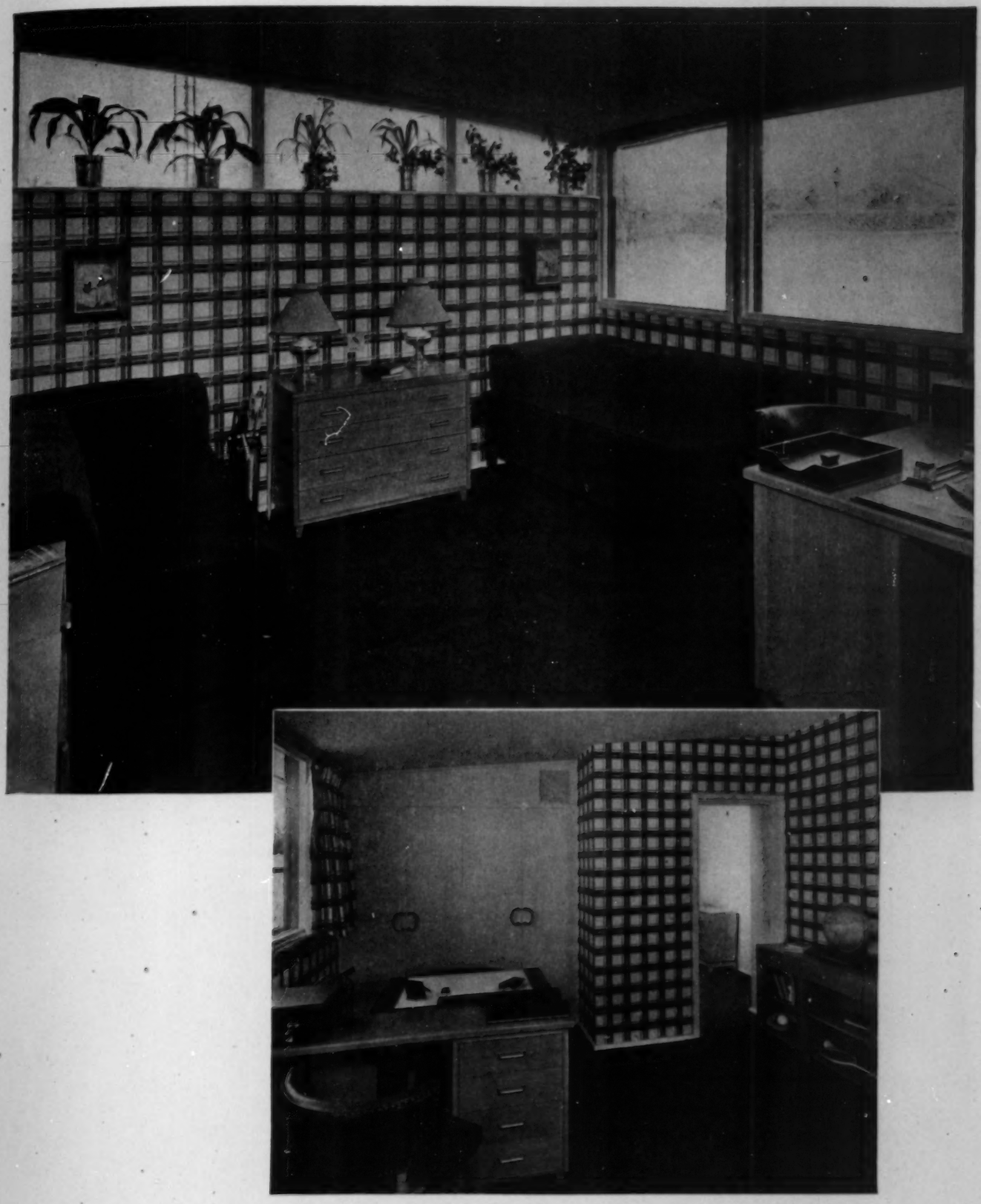




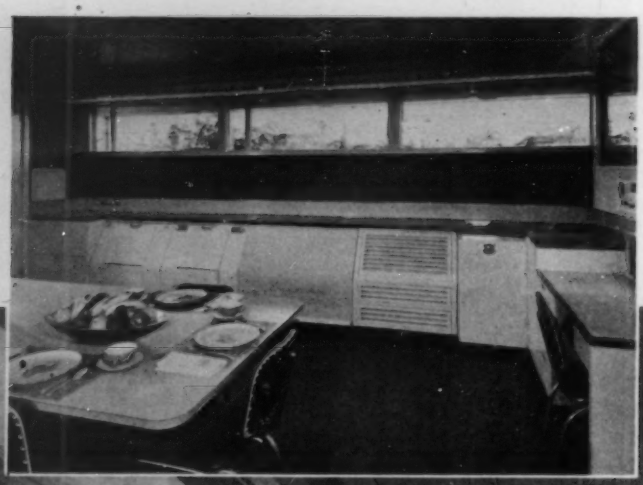




Folding armrests add to the comfort of reading in bed. The telephone and master control board is handy at the bedside. Baths simulate projected "packaged" units, are replete with every conceivable convenience

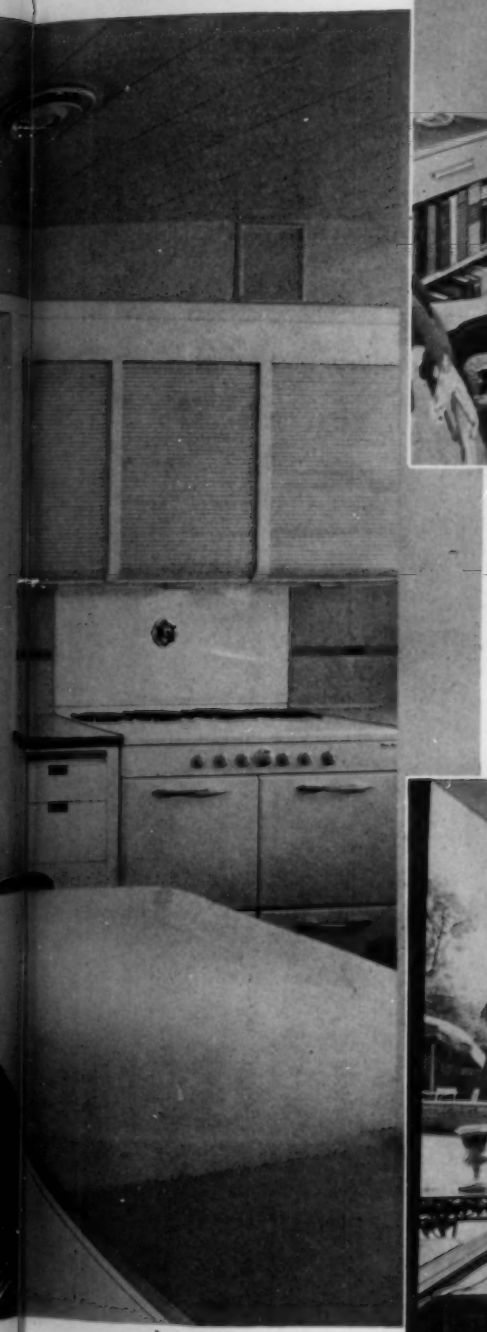


Boys' room has a plaid wall, of the same washable fabric as the other bedrooms. Dark green corduroy couches flank the chest and are as comfortable for day lounging as for sleeping. Mattresses are of sponge rubber. The double desk at the window has chairs of bleached oak upholstered in red leather

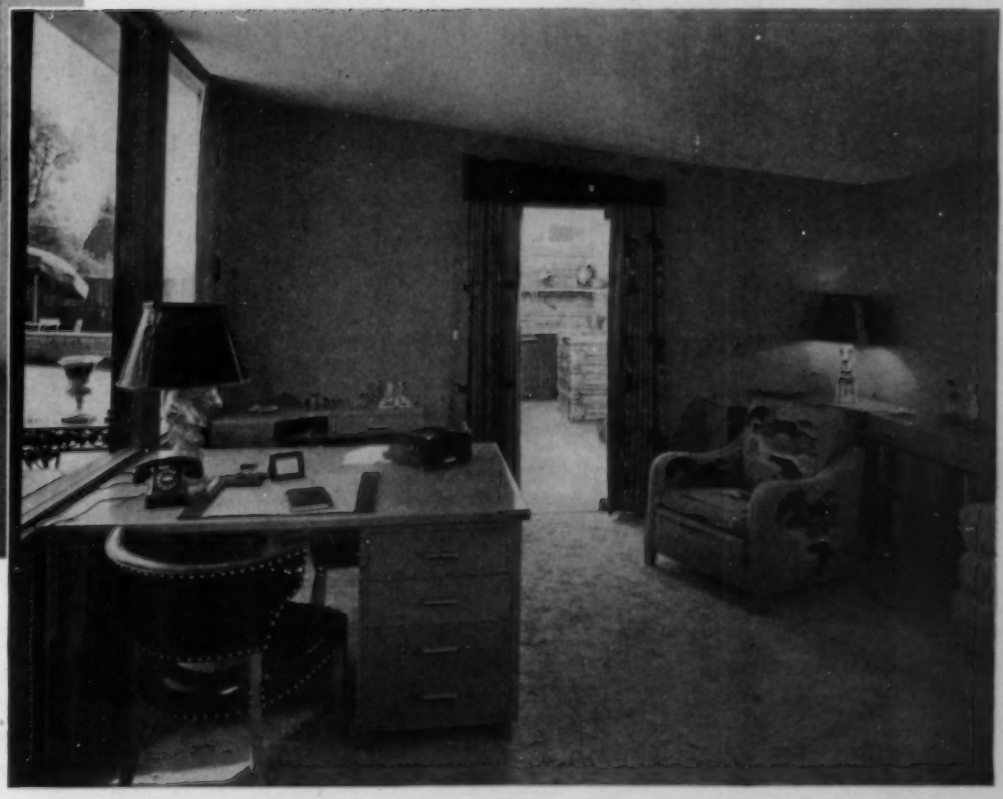


The laundry side of the kitchen (left) is equipped with tray, washer, dryer, and mangle. Vegetable storage, frozen food cabinet and pressure cooker complete the row

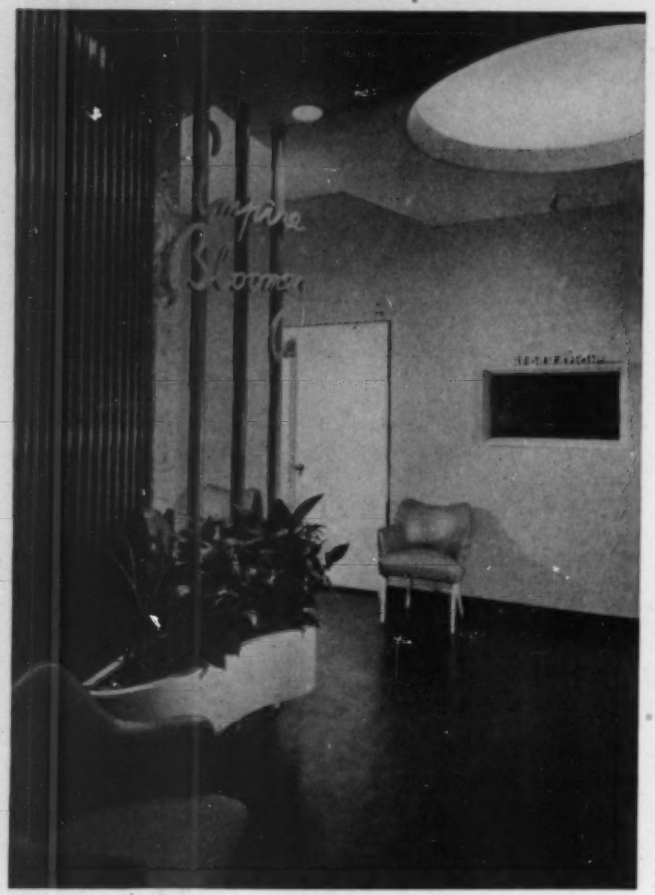
Above, the housewife's planning and control desk has its own radio and intercommunication facilities. Metal cabinets above the counters and range (at the right of the door) have vertical-rolling doors, eliminating head-bump hazards. Left, the complete and compact air conditioning system with its electrostatic filter is in the utility room



Two studio couches upholstered in chartreuse boucle grace the all-purpose or guest room. The sectional bookcases and cabinets can easily be rearranged as whim or changes-in-use may dictate. The horse design of the upholstered chair is repeated in the drapery. The cotton shag carpeting is pewter gray. Beyond the open door is the barbecue. Windows at left look on patio



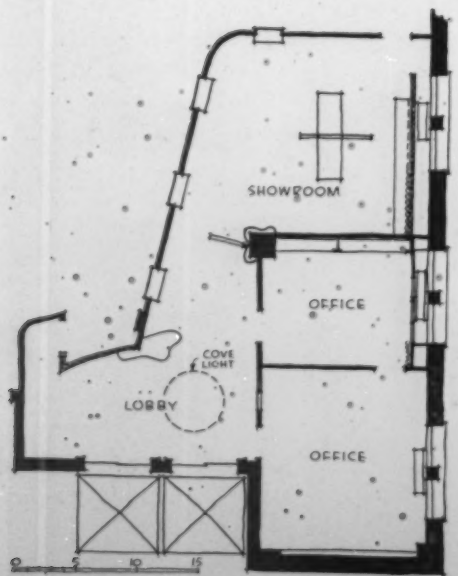
GOTTSCHO-SCHLEISNER Photos



Sales Room for Bloomer Display

Showroom and Offices for Empire Bloomer Company, New York City

José A. Fernandez, Architect



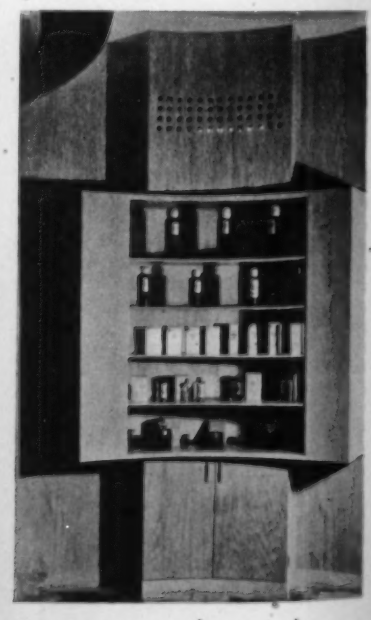
THE merchandise being bloomers, curves are the motif in the design of this small showroom. Nevertheless the general effect is chaste, though the colors are emotional." In these words the architect sums up his approach to the problem of exhibiting bloomers. The showroom has one curved wall, as does the lobby. Curves abound in the glass screen that separates the two selling tables. They are given prominence in the copper wire mesh screen at the entrance to the showroom, also in the linoleum border. The Fernandez wallpaper, in gold, gray and off-white, covers the long curved wall, and serves as background for the little glass showcases hung on the wall. The vertical rods with the company sign on them are accented by different shades of rose. Workrooms are screened from the entrance lobby by a curved partition of corrugated glass.

Sales table with glass dividing screen is of pickled oak. Corrugated glass screen in background was contrived to hide ugly existing windows. Wall cabinet under the screen is pickled oak; as is the woodwork of the chairs, which are covered in "American Beauty Rose" leather

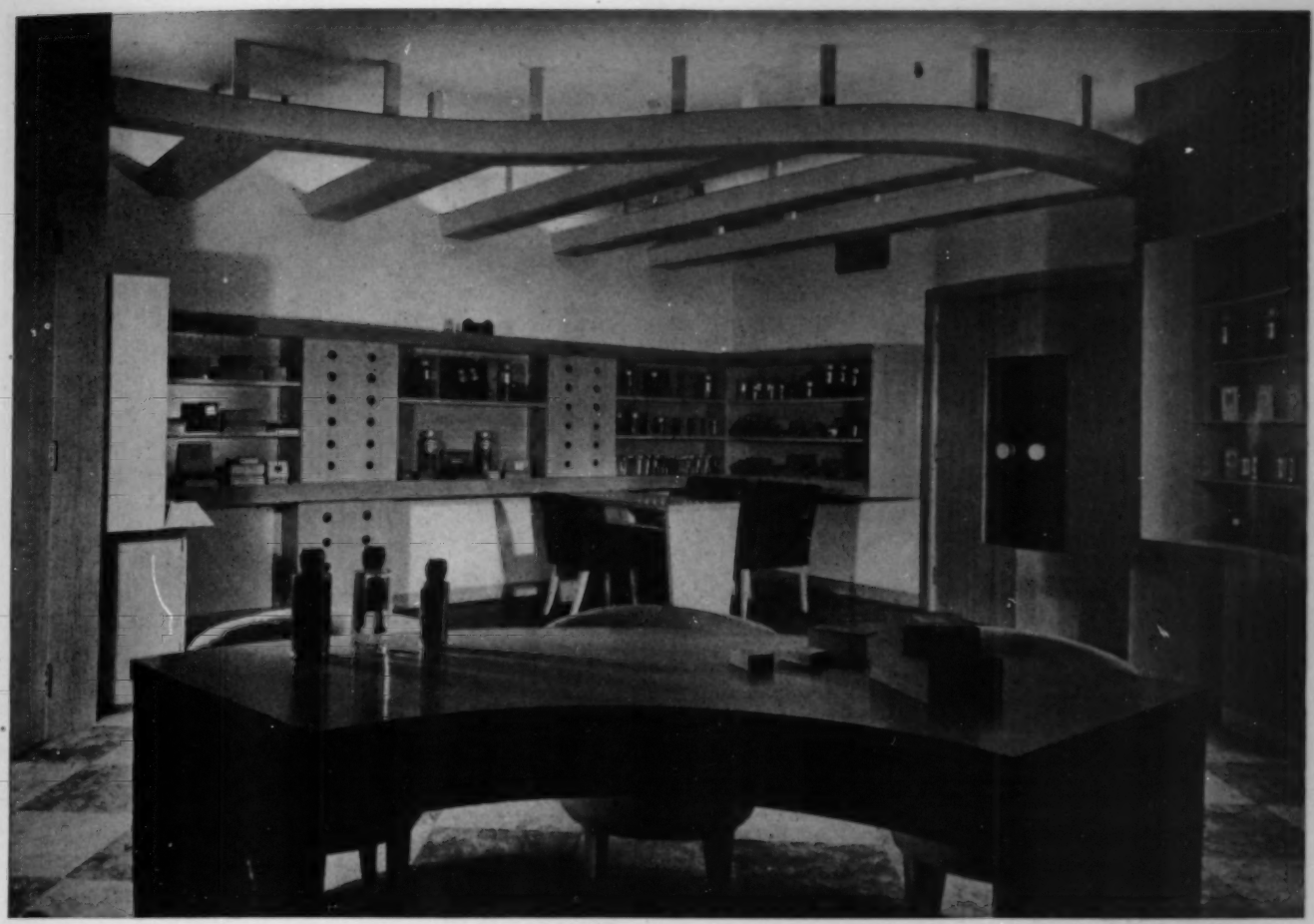
Hans Weiss
William Basser
Designers

SHOWROOM FOR COSMETICS

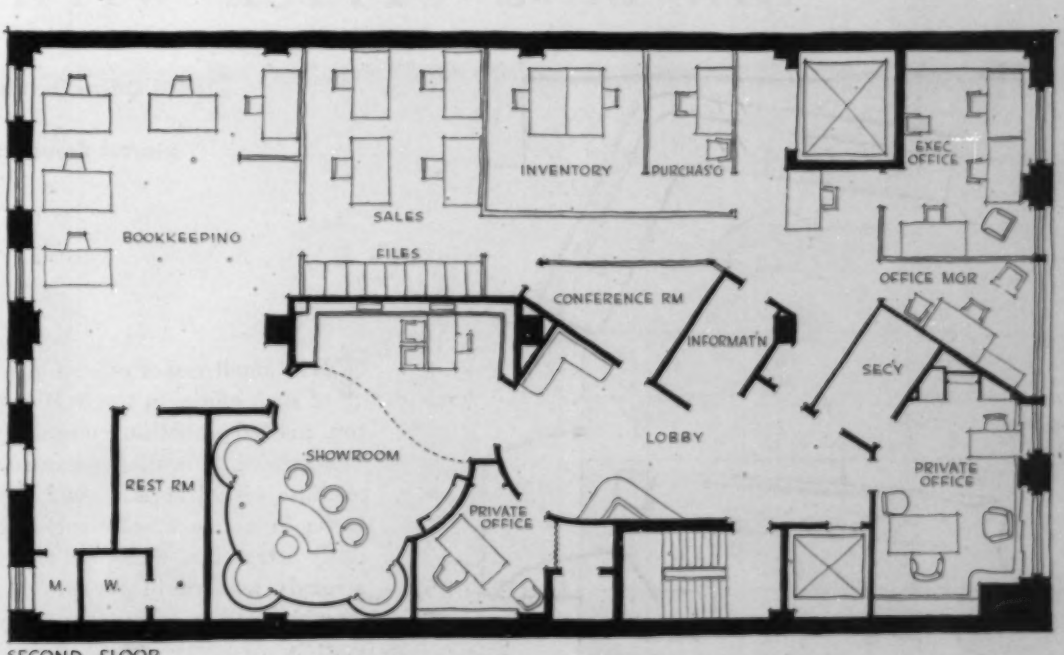
Offices and Showrooms for Mem Company, New York City



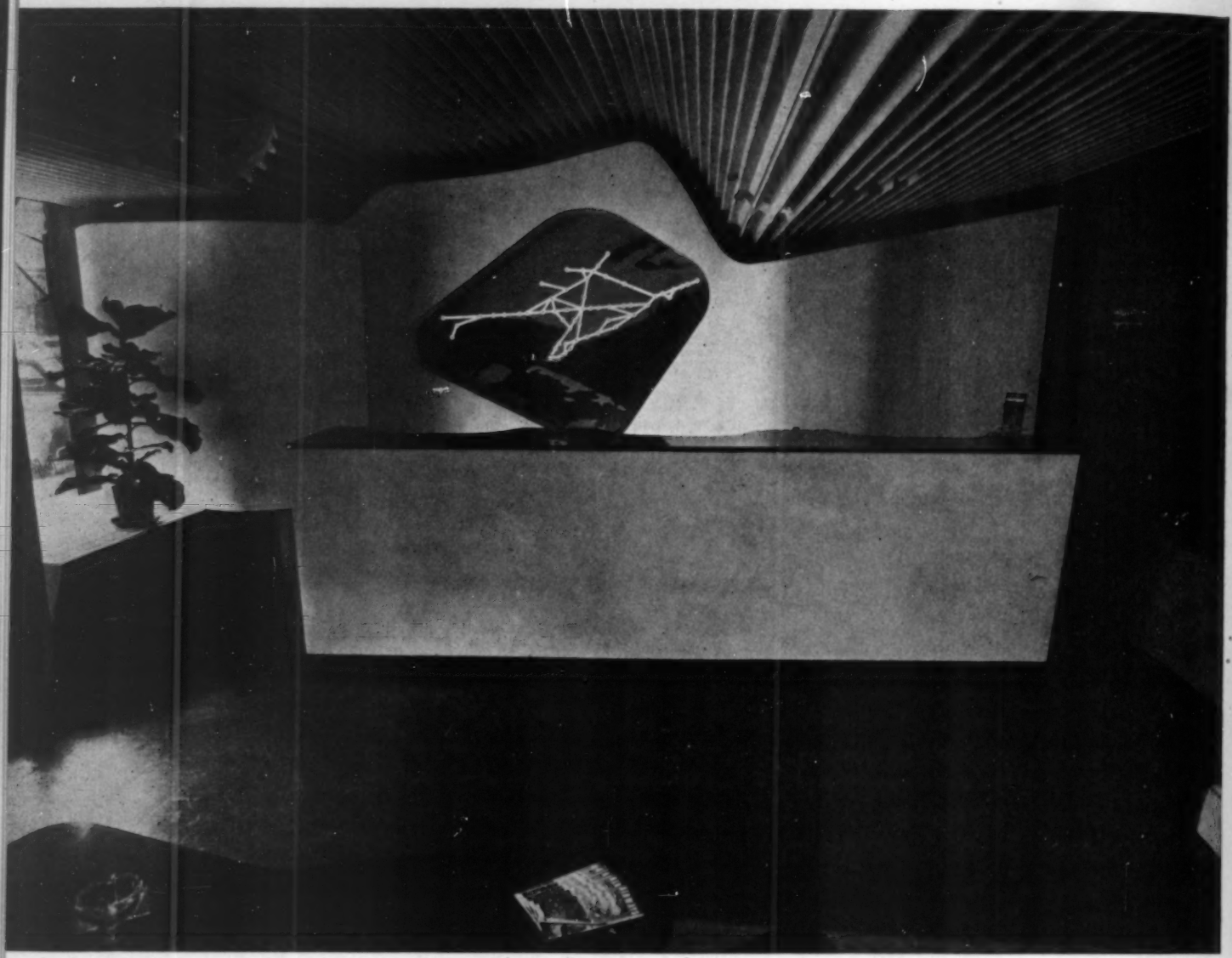
GOTTSCHO-SCHLEISNER Photos



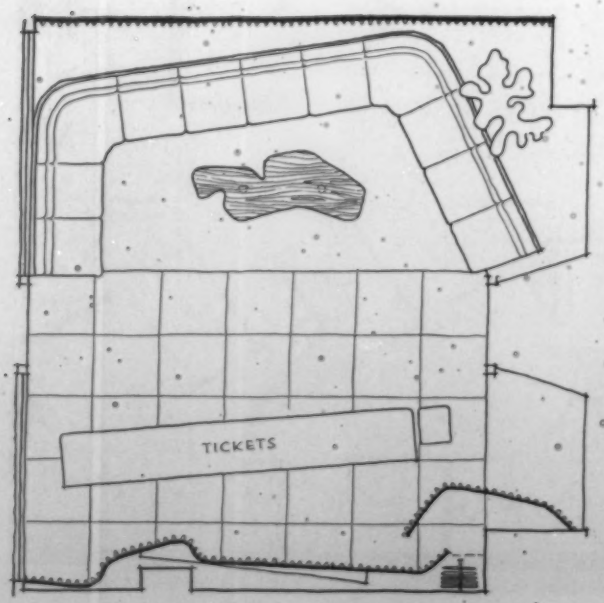
WHOLESALE selling of cosmetics does not require much space, but it does require effective staging. Here the designer has reached for two opposite effects in the same showroom — feminine in one portion, masculine in the other. The curving walls of the ladies' cosmetics section are done in hand-printed linen covering, cherry red highlights matching the comfortable chairs. In the men's-goods department the decor is more restrained — beige painted walls and pickled oak woodwork. Floor is light and dark brown marbleized linoleum.



SECOND FLOOR



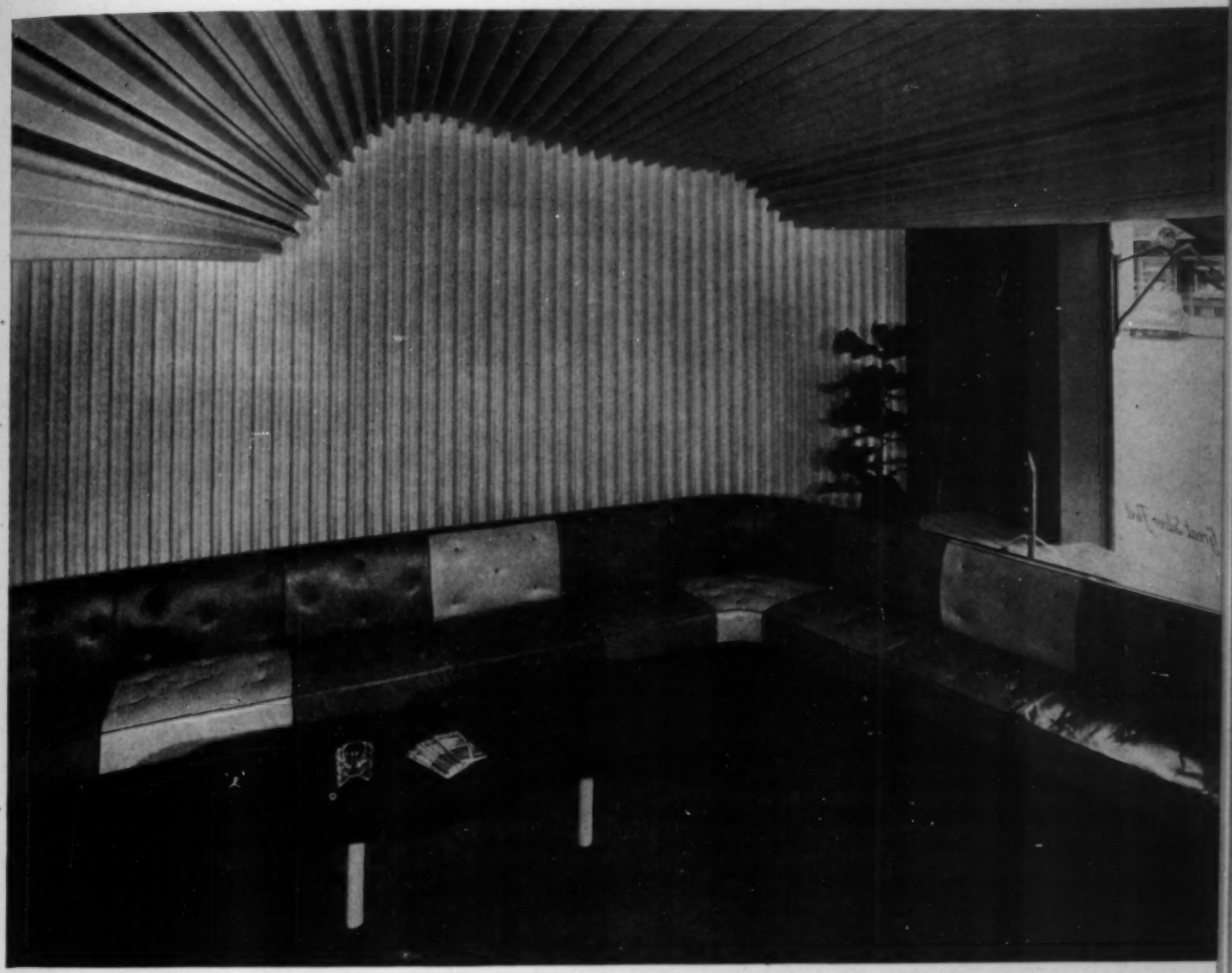
AIR LINE OFFICE WITH A LIFT



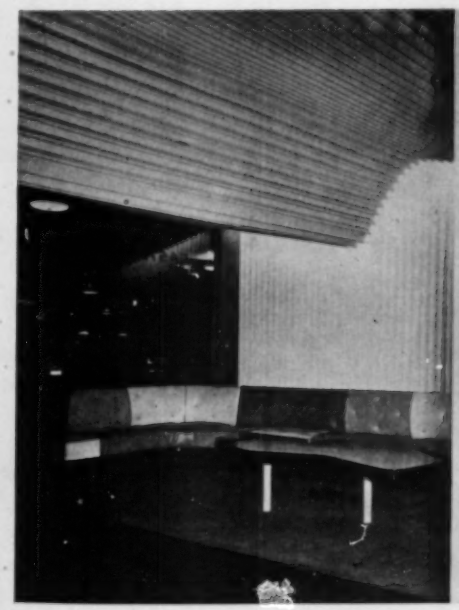
Ticket Office for Eastern Air Lines, Boston

Marcel Breuer and Hugh Stubbins, Jr., Architects Associated

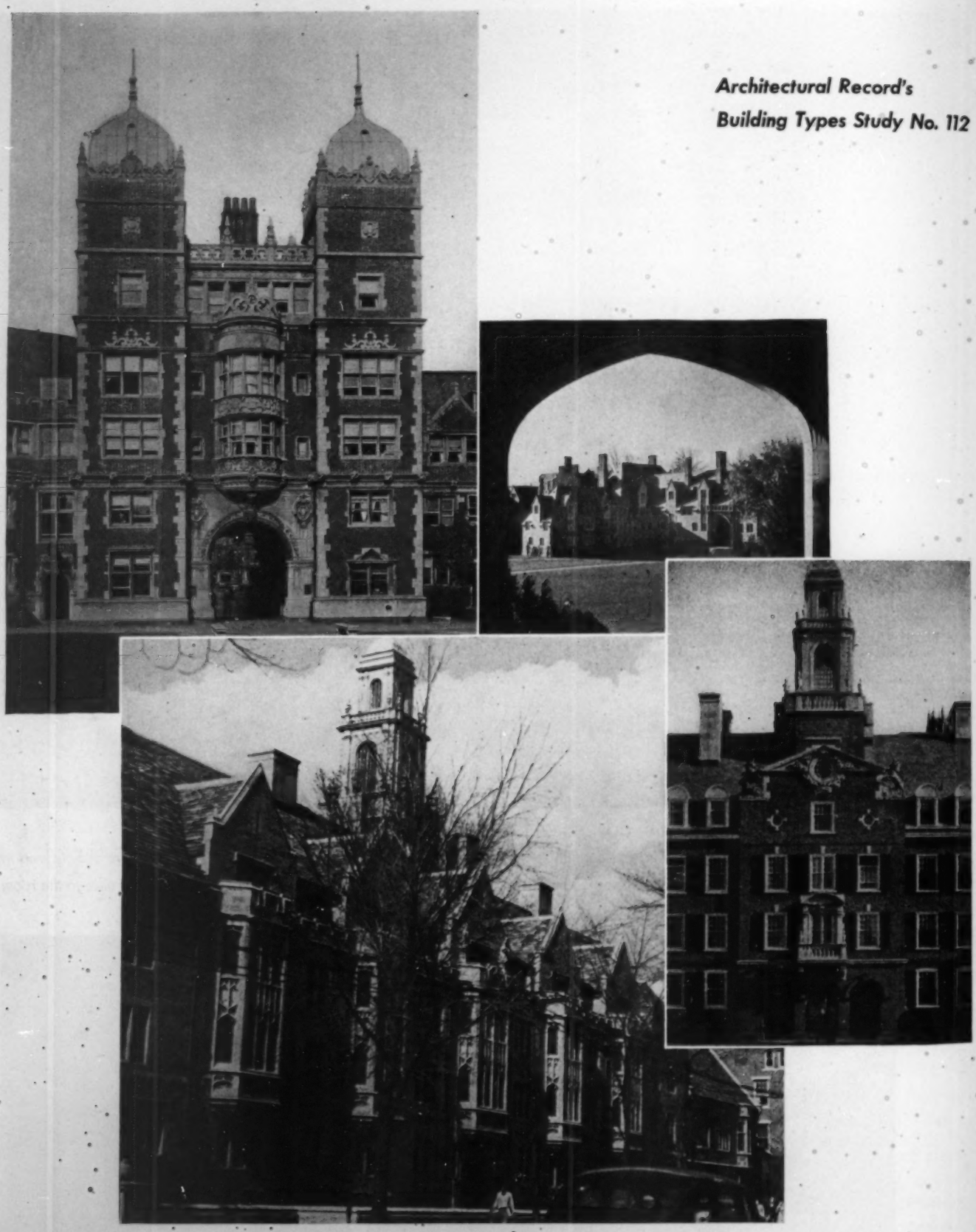
THIS small ticket office for an air line, one of a row of such offices in the Statler Hotel Building, in Boston, needed something more than a strictly utilitarian atmosphere. It needed salesmanship, a striking and immediate visual appeal. And that it undoubtedly does have; in a row of conventional offices it is conspicuously attractive. While the free-formed ceiling surfaces, strongly profiled in gypsum plaster, serve to hide an irregular ceiling, they also carry a suggestion of plane contours. Indirect and spot lighting add interest.



Walls and ceilings are painted in light gray, table tops are black. Cushions are upholstered in alternating Chinese red, cobalt blue, cadmium yellow and gray, giving a gay note to the room



Architectural Record's
Building Types Study No. 112



"Considerable success for picture postcard or calendar purposes . . . as in Janus-faced Davenport College (two lower views) which is Gothic on one side and Georgian on the other, with a cupola that sits equally well either way. . . . Parasitism thus compounded becomes habitual, and the only way people would awaken to the incongruity would be through being compelled to put on a powdered wig over a monk's habit and carry a flintlock . . . into the modern bathroom. The colleges seem to sense the incongruity"

COLLEGE DORMITORIES

WHAT DO THE COLLEGES REALLY WANT?

By Hugh Stubbins, Jr.

IN ANY college building program of today the central problem is not how to meet conditions but how to get around meeting conditions. College administrators are hacking their way through the brush of purely imaginary problems which have been thrust upon them, or self-imposed, as "custodians of tradition."

In their educational program these educators are constantly endeavoring to push back frontiers, to extend knowledge into new fields and forms. In their building program they are asked to push back to the old frontier, and dress up their new plans, materials, and equipment in knee breeches and periwigs.

Architects are asked to achieve one of two things, mutually exclusive:

(a) To "match" the good old buildings that are already on the grounds with others as nearly like them in outward appearance as possible — though there is entirely different equipment inside. This is called "discipline."

(b) To create "harmony in diversity" by an admixture of "styles" or stylistic details that may have been historically thousands of years apart, but are all hallowed by belonging to the respectable past. This mutual respectability is presumed to guarantee consonance without further question.

In the name of "tradition" college administrators are asked, above all, to avoid innovation in appearance — though of course not in equipment or the arrangement of minor divisions that passes for planning — because no one knows whether it may not become ridiculous over a period of years. Above all, honesty and straightforwardness are mistrusted as snares set by the devil for the unscholarly, however well they may have served our ancestors now safely across the Divide.

Preoccupied with these "do's" and "don'ts" the administrators are never able to get around to the direct problem of erecting buildings as a solution to the human needs of their teachers and their students.

The first notion, that a building in order to harmonize with neighboring structures must be of the same style or period, is erroneous. It is not even historically a respectable attitude but an aberration of thought peculiar to one or two recent decades.

Some of the buildings, the squares, and the towns that we most admire in Europe are examples of admixture by new growth. The group at Pisa, considered by many as the most beautiful aggregation in the world, is built in the "Romanesque" style except for the Baptistery which was completed some years after the Cathedral and the Leaning Tower. Part of this structure is in the "Gothic" style. Those who finished this great work had too much respect for the art of the former masters to try to copy it. They completed it in the prevailing vernacular with such sympathy and understanding that no one's esthetic feelings are disturbed. Quite the contrary.

"These builders did not know themselves as Gothic or Romanesque or Byzantine — they built the best and latest, and it all fit"

Facing on the great Piazza of San Marco in Venice are great examples of architecture built centuries apart, and strengthened in effect by one another. The Cathedral,

which started out in the Byzantine style, was built in the 12th and added to in the 13th and 15th centuries. It is happily in place with the soaring 9th-century Romanesque campanile or the 15th-century Doge's Palace.

These builders did not know themselves as Gothic or Romanesque or Byzantine — that was for the later Gothicists and the Romanesquites and the Colonialisticites — they simply built to the problem at hand in the best and latest way they knew how, and behold, it all fit.

Some colleges have felt obliged either to mix the "styles" or to shift from one style to another across a separation of some thousands of years. Unlike the original evolution, these sudden shifts do not grow out of changes in sense and sensibility but out of whim, or even out of budget policy. Occasionally the success is considerable for picture postcard and calendar purposes, as in the case of the famous Janus-faced Davenport College at Yale, which is Gothic on one side and Georgian on the other, with a cupola that sits equally well either way (page 106). If it is possible to be so "successful" by combining the habitations of medieval monks with those of British lords and Virginia governors, the difficulty is understandable of achieving success by being direct. Parasitism thus compounded becomes habitual, and the only way people would awaken to the incongruity would be through being compelled to put on a powdered wig over a monk's habit and carry a flintlock over their left arm into the modern bathroom.

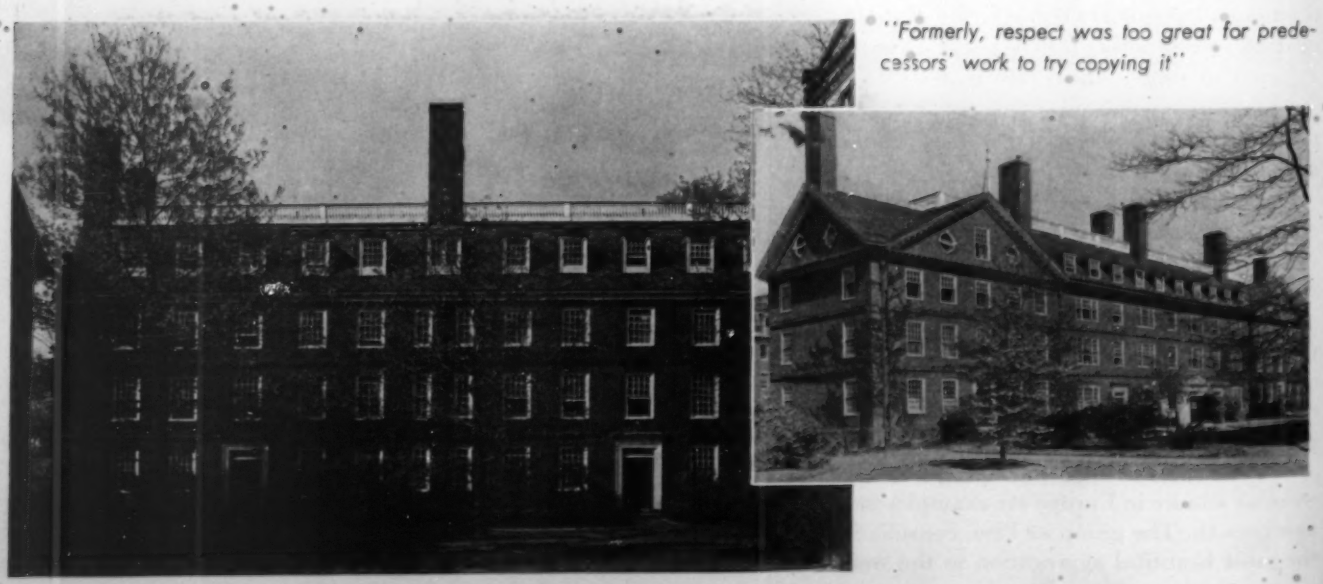
The colleges seem to sense the absurdity of building 11th-century monasteries for 20th century students, or even Virginia governors' palaces. The administrators are afraid to submit these projects to their own architectural departments, manned by scholars who understand better than any others the everlasting Tradition of Right Building. At any rate, these men who know the building problem best are conspicuously absent from the building committees entrusted with the masquerade which has the arrogance to usurp Tradition's mantle.

Why is it that those who are not upset by the sight of even the strangest bedfellows are so afraid of what is called "modern" architecture? The principles of real architecture have not changed. Why start with past styles, which are merely cast-off garments, and an oblique approach to the building problems peculiar to our age? Intrinsically the college should face the question of how its students should be allowed to live — what way of life the college should and can provide.

What happens to students as personalities when they spend their whole social life in groups, and only their sleeping quarters are separated off into private cubicles? What happens when the student's individual room is his combined social center, study and bedroom, one of fifty on a corridor? Or one of four on a floor? What has the college decided about the queer duck? about cliques and groups? about contacts between men and women students? about the right place for recreation?

The architect has much left to do after the decisions of the college have been registered. He has to decide what makes a stimulating and satisfactory place of a room or collection of rooms, above and beyond the physical requirements of space and furniture, heat and light. In so doing he encounters those complex interrelationships between what used to be called "commodity, firmness, and delight," that give him a handful of work even when there is no interference.

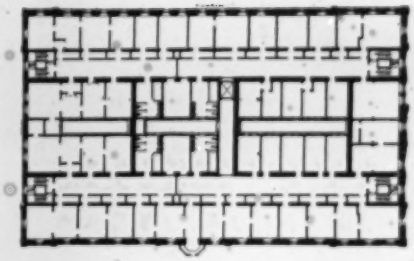
Another vexing problem is that of the future. The colleges have by and large been trying to meet it by pretending that there is none — that if you choose the right past you can make it everlasting. The fact is that we do not know, and cannot know, what will be the best kind of college building five years hence. All the more do we have to make all buildings flexible — as flexible and adaptable as can be. If we could divorce ourselves from copied standards and get at the intention with a free mind, concerning ourselves with good versus bad design, not style versus style, we might develop an expression which is architecture, not archaeology, which is independently alive, not parasitic, which is therefore in that great central Tradition of building which the colleges now traduce.



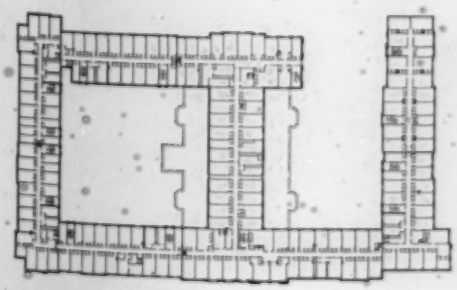
"Formerly, respect was too great for predecessors' work to try copying it"

ROGER STURTEVANT Photo

FACTORS IN DORMITORY PLANNING



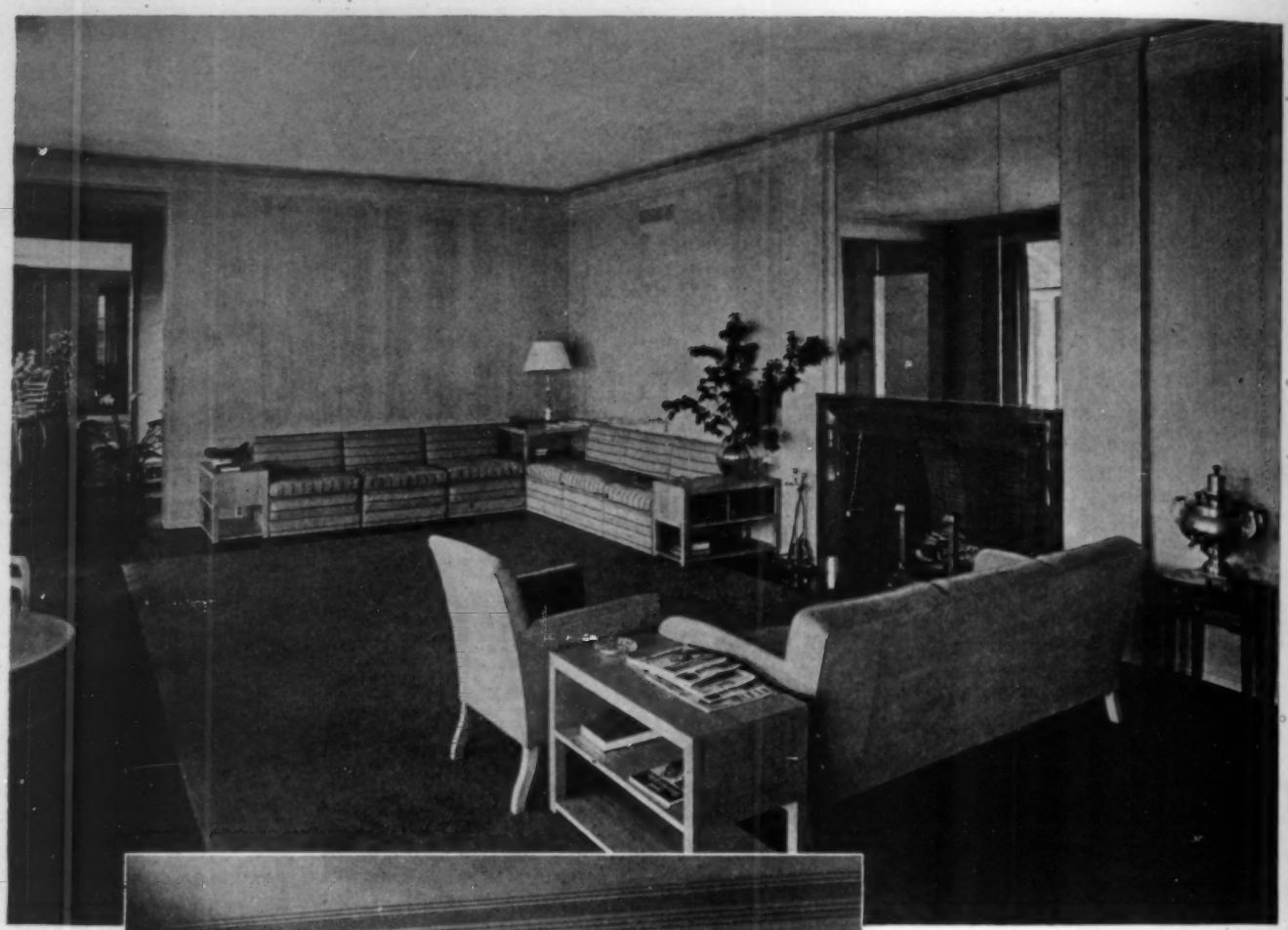
Photograph at head of page represents Stern Hall, a dormitory of the University of California at Berkeley, by Wurster and Bernardi, Architects. The plan above dates from the unblessed seventies and shows how far compactness may go if unrestrained. Below, a quadrangle plan from the University of Michigan, oldest land-grant college, serving vast numbers



PURPOSES of college building committees are unusually confused. Considerations of student welfare vie with the profit motive and sheer sentiment. Dormitories are the only income-producing buildings on the campus, earning from about 2 to 5 per cent, and money today is cheaply borrowed. Serving different concepts of student welfare, plan groupings range from the big university quadrangle (lower plan, left), where freedom gains from the impersonality of several hundred similar cells, to the "entry system" which surrounds each stair hall with a minimal number of rooms, and reproduces the close social unanimity of the fraternity house. Intermediate types tend at present to group the students, mostly in single rooms, about 10 to the floor or wing, on three or four floors. The profit approach to a program usually begins with the kitchen. It has often been assumed that the best balance between kitchen efficiency and palatable meals is struck in a size serving about 150; but that dining rooms should be held down to 75. The same kitchen is then made to serve two dining rooms, each flanked by its separate dormitory wing. (See Colby College plans, pages 112, 113.) In the current Smith College-*Progressive Architecture* competition program, this theory was discarded in favor of separate kitchens serving dormitory units of 60, which the winners grouped by 10's in bilateral wings of 3 floors. Solutions become more complex in coeducational institutions; where the men may take their evening meal at the women's houses.

This year, social planning aims are yielding ground to high construction costs, leading to primitive arrangements that achieve a large number of rather small rooms per stair hall. Colleges seem ready to sacrifice basic convenience and spaciousness to construction costs before giving up alumni and donor sentiments about "style." Over the long run, the lowest construction and maintenance costs can indisputably be obtained, with minimum sacrifice, by the directness and simplicity of good contemporary design. The trend, though slow, is in this direction. The high expense of Gothic (Rhoads Hall at Bryn Mawr achieved a record $4,407 per student in 1937) compelled an advance

PLEASANT LIVING IN COLLEGE



ROGER STURTEVANT Photos

Sorority House at Berkeley, California
Gardner Dailey, Architect

This was finished in 1939; it reflects the taste of the younger generation in that year more faithfully than college-built residence halls might. The choice of furniture in the individual rooms was the girls' own; living room furnishing was by Armstrong, Carter and Kenyon

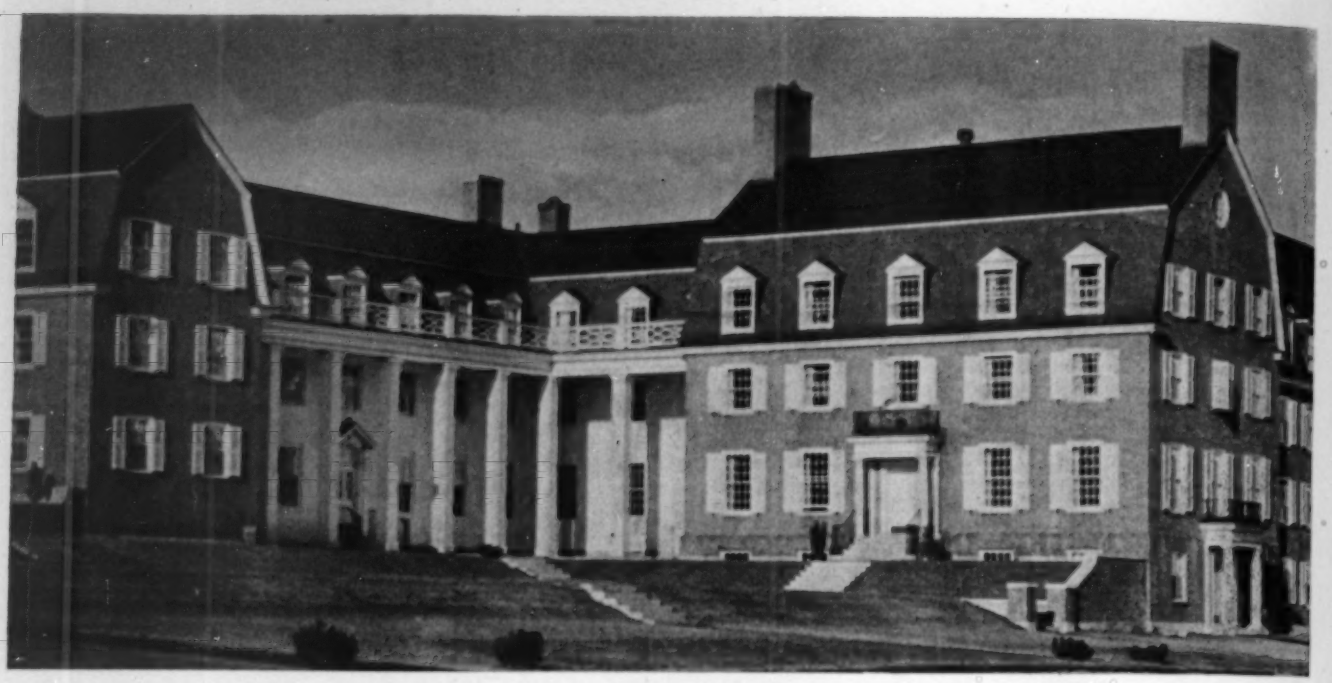
of some three centuries in ten years as the colleges swung to "Georgian." Since costs still rise, perhaps another two-century gap may be closed in the next five years.

The long-term course of events is, of course, unpredictable — college dormitories having in general followed the domestic habits of the educated, so that during the slum-building years there were produced some first-class college slum plans (bottom, p. 109) and in the halcyon days some elaborate Tudor estates (p. 106).

In one particular the backwardness has been scandalous. In a thorough survey, the Army found in 1944 that an unnamed "relatively high" percentage of eye impairment had been occurring during the four-year course at West Point, in buildings not unlike college buildings elsewhere, and that 76 per cent recovered, fortunately, in a year after graduation, from the deterioration in college. Perhaps up-to-date design would be a more responsible procedure than following any style fads.

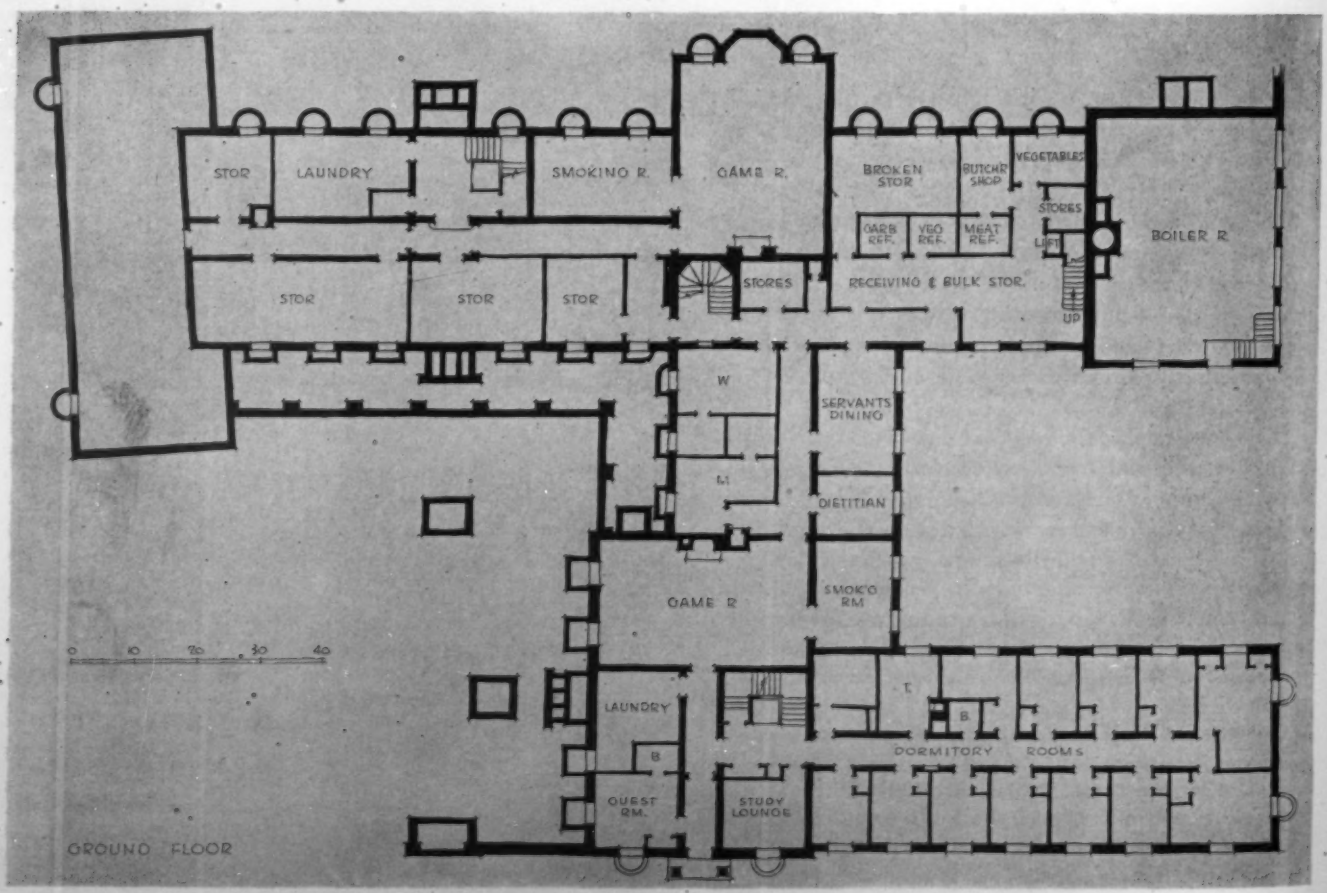
Our late-retiring generation has needs vastly more exacting than sufficed our ancestors who rose and retired with the birds. "Adequate light at the desk, if possible natural; even light in the whole field of view; more light on the work than strikes the eye" — these stipulations mean radical change.

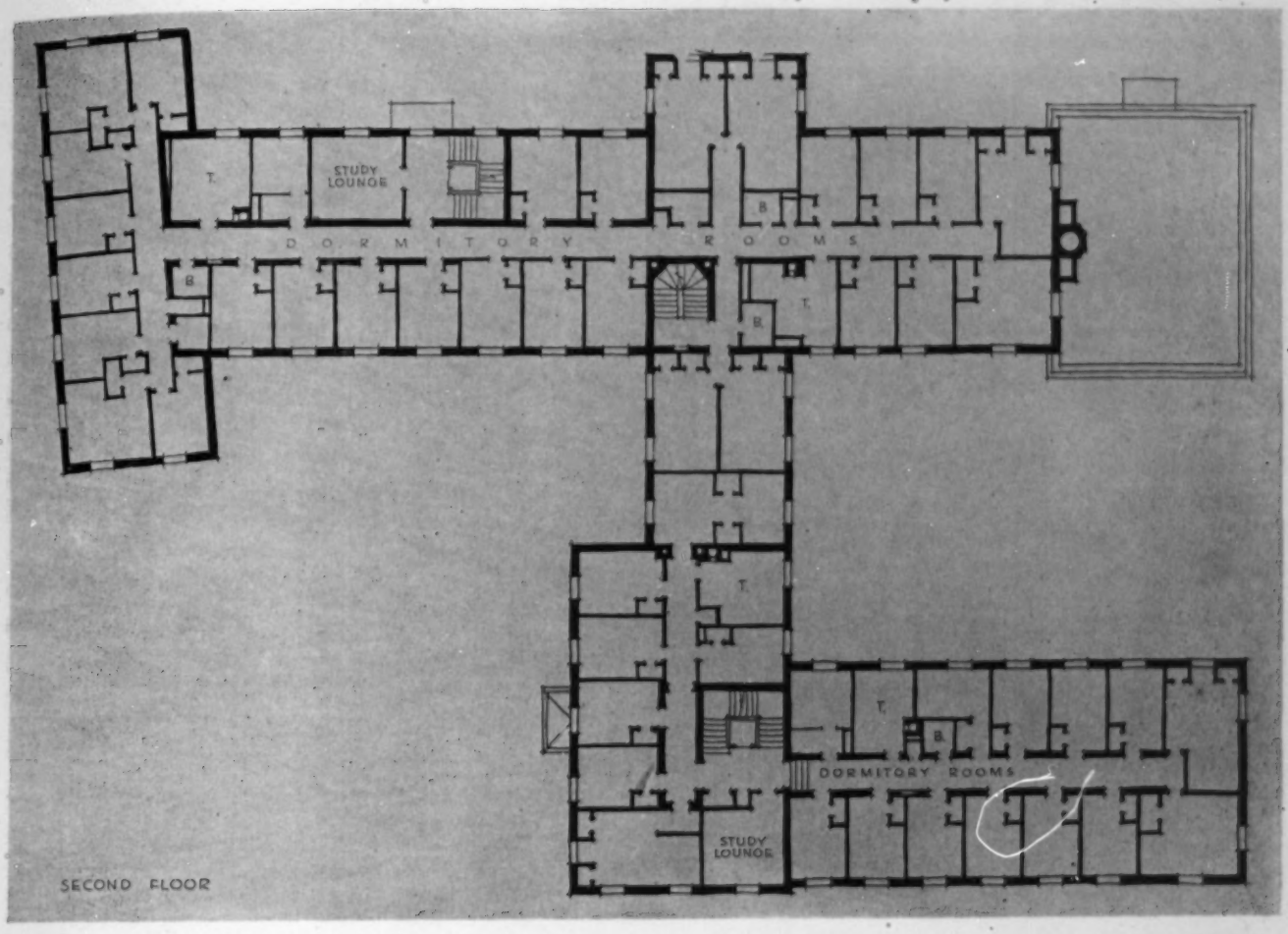
TYPICAL DORMITORY ARRANGEMENT

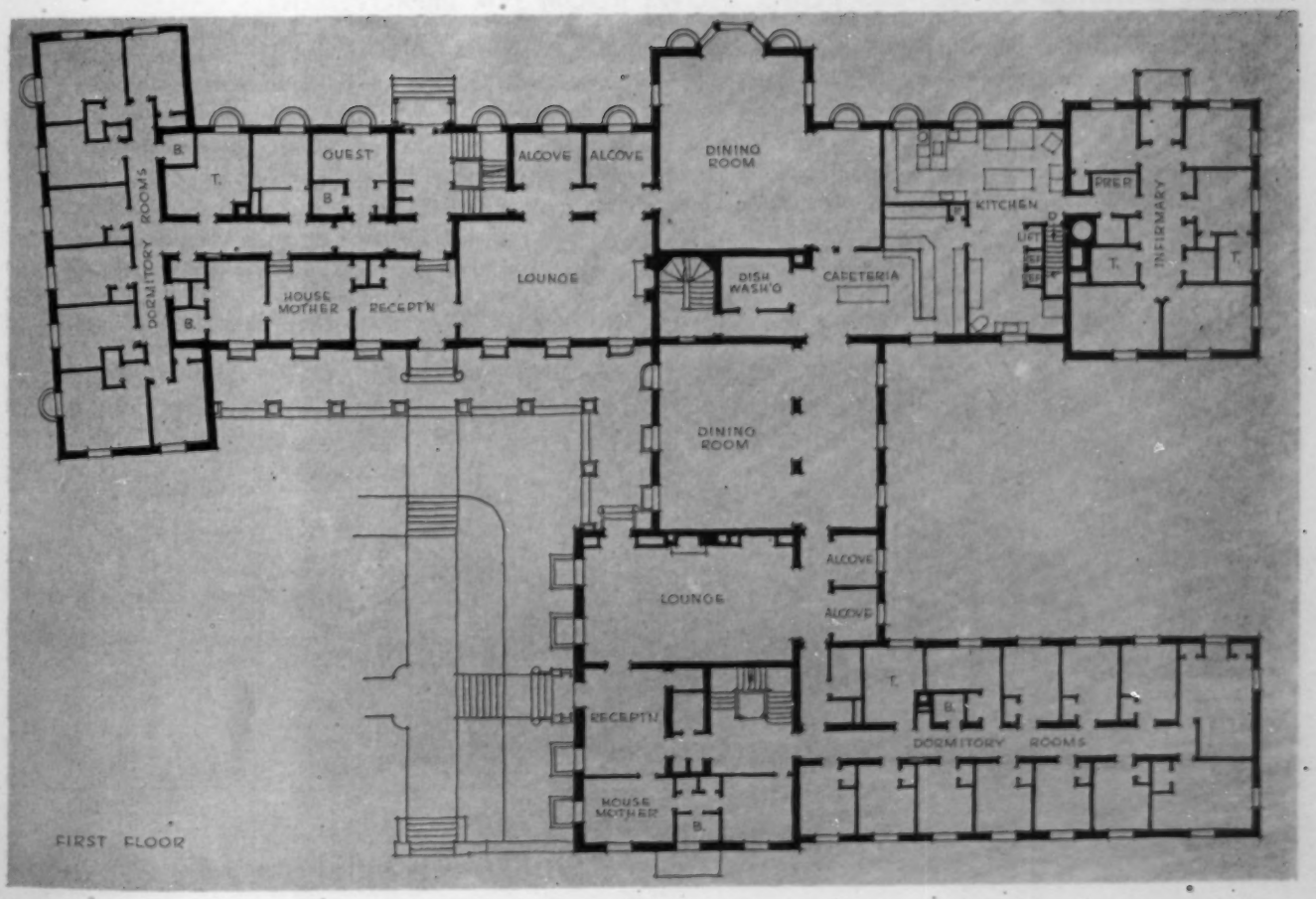


COMPACT DORMITORY PLAN, Colby College, Jens Frederick Larson, Architect

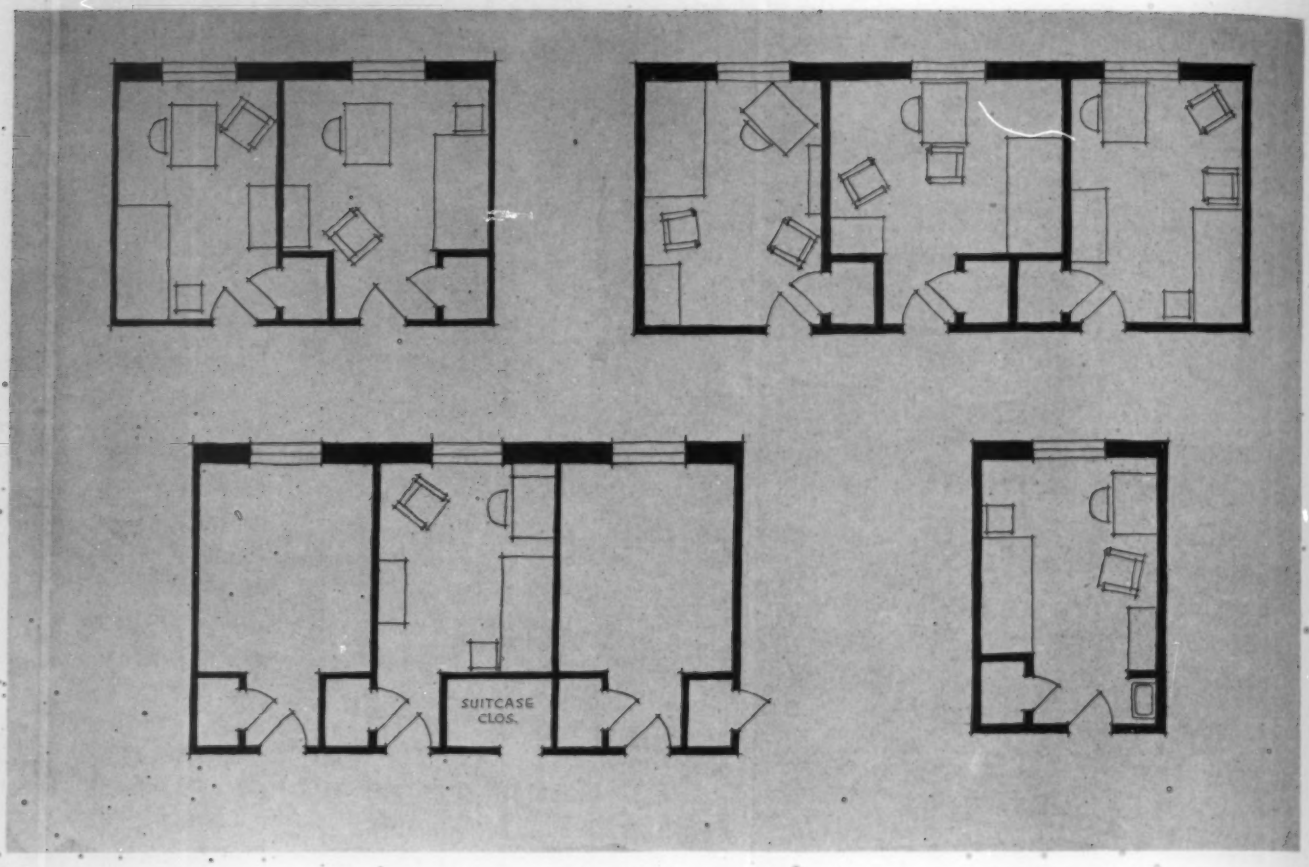
This plan can serve almost as a schematic diagram of the predominant type of dormitory planning for smaller colleges. It is for Senior girls. The basic plan element is the kitchen so arranged as to serve two dining rooms, each with a capacity of 75. Rooms are predominantly single and compact, arranged usually in groups for 10. Lavatories and student laundries are placed in the angles. Note the skilful isolation of the infirmary, which is directly connected with kitchen




STUDY LOUNGE
DORMITORY ROOMS
T.
B.
DORMITORY ROOMS
STUDY LOUNGE
SECOND FLOOR


DORMITORY ROOMS
GUEST
ALCOVE
ALCOVE
DINING ROOM
KITCHEN
PREP
INFIRMARY
HOUSE MOTHER
RECEPT'N
LOUNGE
DISH WASH'G
CAFETERIA
DINING ROOM
ALCOVE
ALCOVE
LOUNGE
RECEPT'N
DORMITORY ROOMS
HOUSE MOTHER
FIRST FLOOR

DORMITORY ROOM PLANS

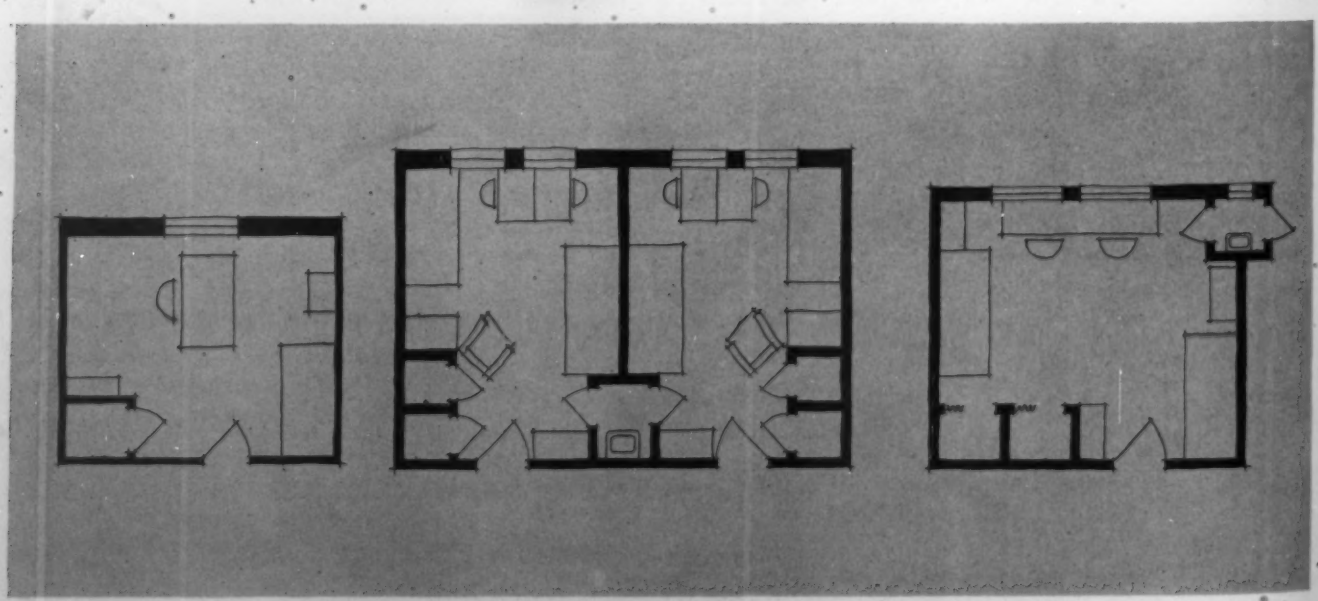


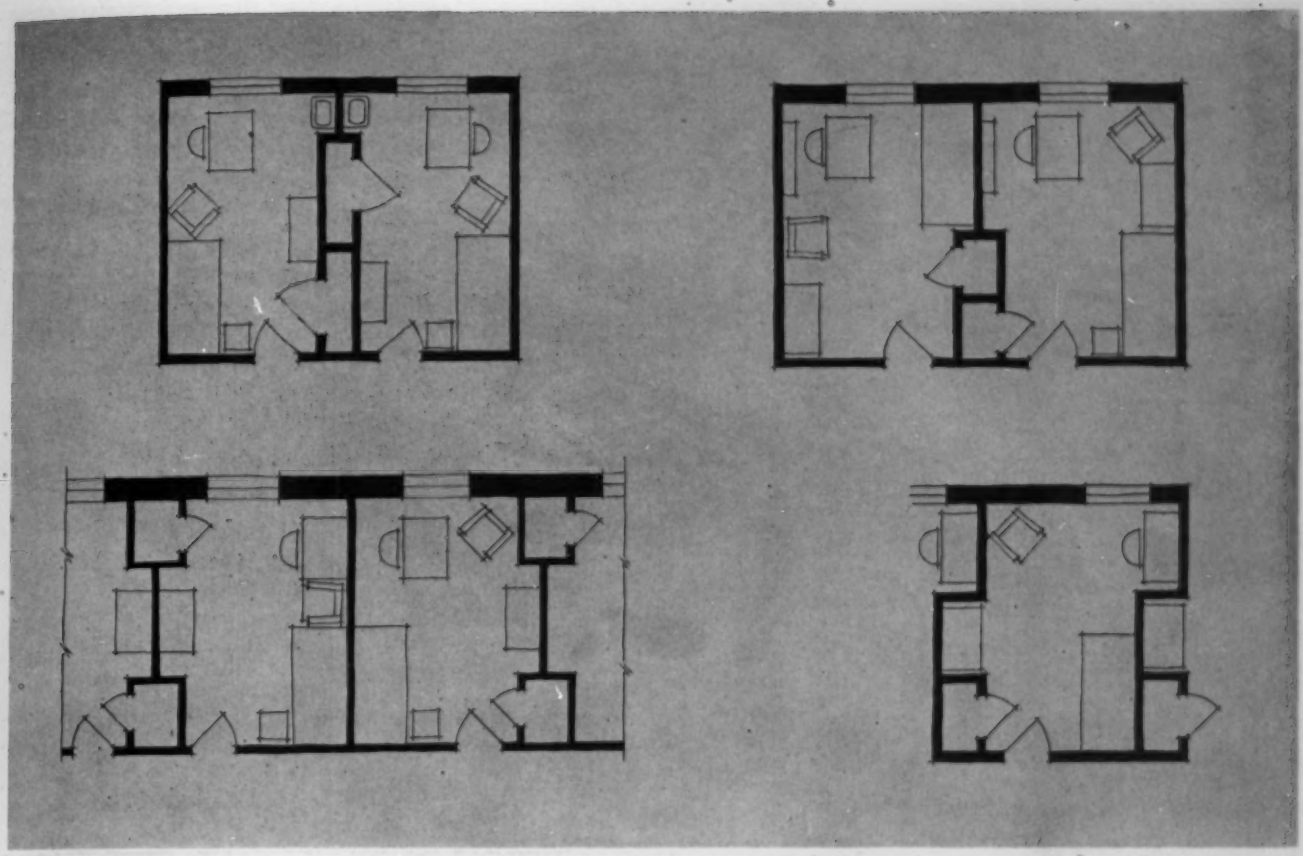
Group 1

CRITICAL ANALYSIS OF EXISTING PLANS SHOWS ROOM FOR IMPROVEMENT

Group 1 and 2: Closets off the entrance. *All plans of this type have the dual disadvantage that closets are dark, depending on artificial illumination, and that doors bump. By varying the room width and cutting the closet space alternately out of one or another of two rooms, architects have produced differences. Skimpy windows, in these plans as in most dormitory plans, have made good desk placement difficult. Thus in (1) above, the desk takes most of the free floor space, and in (3) and (4) the student works in his own shadow. In the group below, (1) is especially bad — the generous floor space being devoured by the desk; but, pushed in the corner it would get no light. The double rooms in (2) below are compact, but with all occupants knocking one another out at entrances, closets, dressers, washbowl. No. (3) is fair. It permits desks to face the light — occupants will have less glare to contend with, actually, than in any of the other plans, if thin curtains are used on brilliant days, because brightness is even*

Group 2





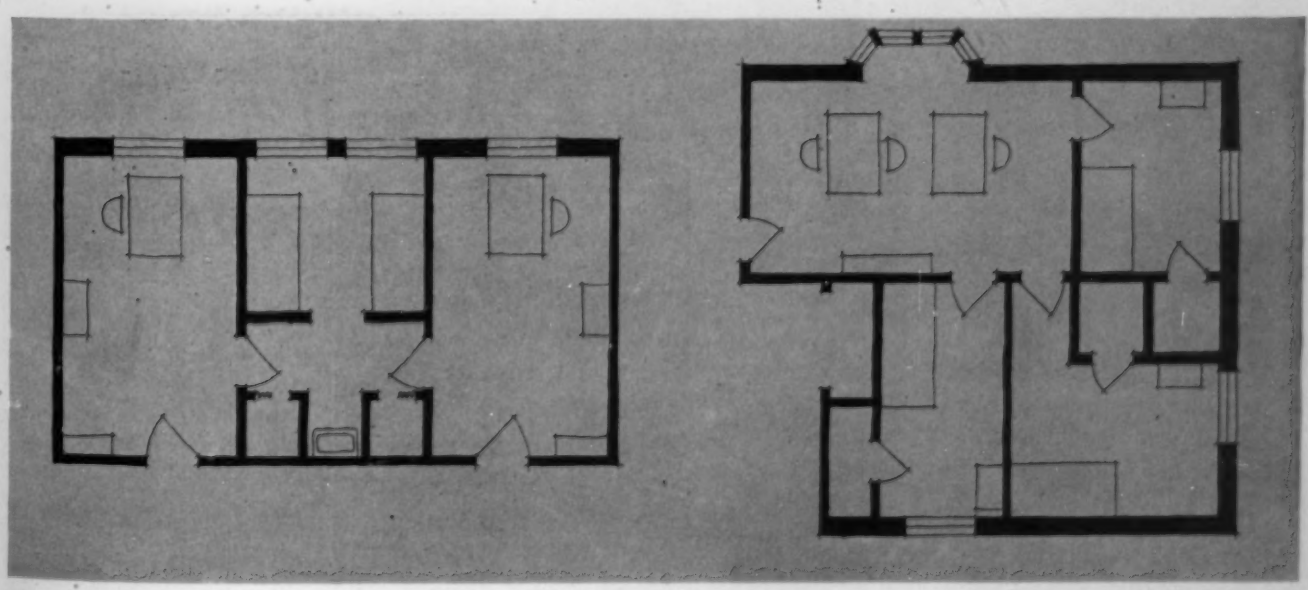
All room plans drawn to 3/32 in. scale

Group 3

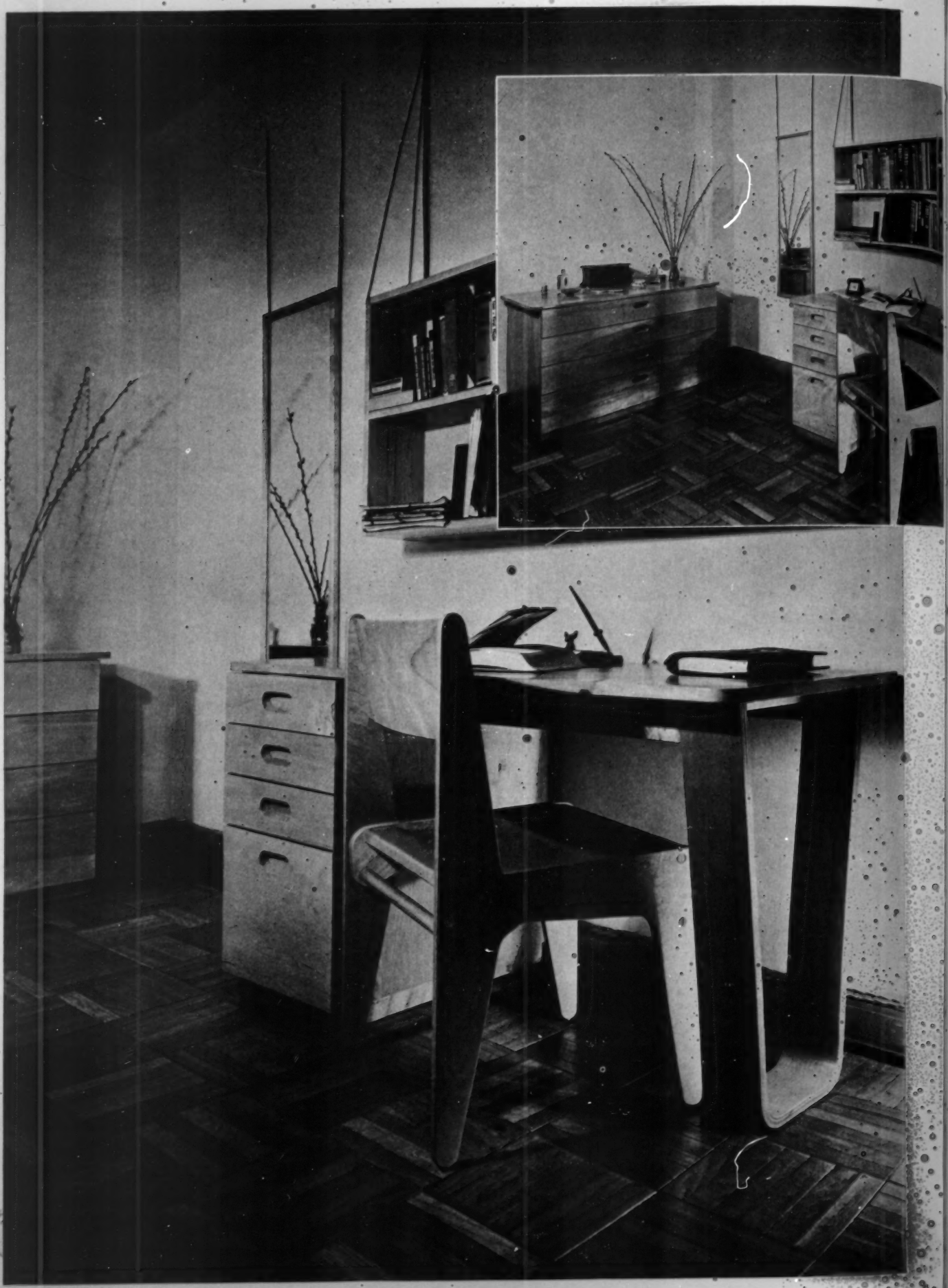
Group 3: Storage at side partitions. *Here we have considerable improvement, though doors still bump and dressers still obtrude the storage function unimaginatively into the social area of the room. In (4) there is an approach to neatness, although the dresser is fairly shouting to be built-in. In (3) the unimaginative fixation of architects on stock dressers is at its worst: the gain in space and appearance through having the dresser recessed is largely nullified by the awkward cleaning problem producing dirty corners. In (1) the storage space would be well lighted naturally, and the storage represented by the protruding dresser could have been absorbed into the design. The front is broad enough for the simple and workable sliding doors of contemporary design which have worked very well in homes and private schools. But college architects seem to have employed no devices later than Colonial ones.*

Group 4: Segregation of sleeping. *These are old plans which suggest new possibilities, especially if progress is made in fenestration. At left, "porch" sleeping; right, common study*

Group 4

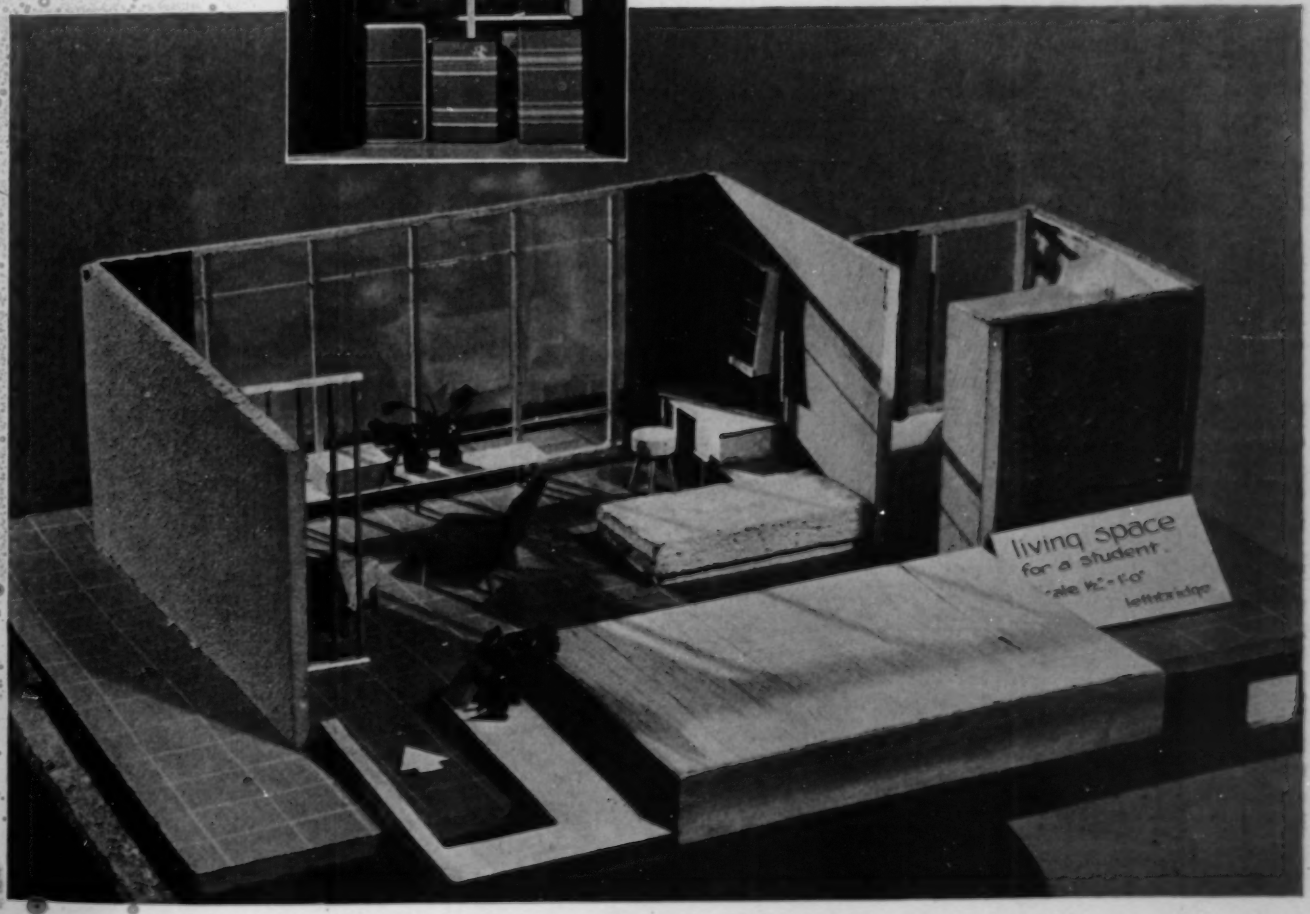


DORMITORY INTERIORS



BEN SCHNALL Photos

The Bryn Mawr furniture seen on the left-hand page was photographed for this building types study after six years in constant use. It was designed by Marcel Breuer. Note the ruggedness, the functional detailing, and size adequacy. On this page, left, conventional dormitory furniture. Center, a highly useful suitcase closet in corridor. Below, a Yale first-year architectural student's design for his own preferred living space, indicative of the taste of the present college generation for pleasant spaciousness, adequate fenestration



PLANNING FOR DORMITORY FOOD SERVICE

By Mary deGarmo Bryan *

THE experiences of architects who plan dormitory food services and dietitians who operate these services indicate the importance of early and frequent conferences at all stages of planning and construction. General preliminary considerations include:

Type and variety of food services and the policy of financial operation. Who is to be served, when, how, and at what charge to clientele and cost to the college?

The amount of space. Allowance for dining room, 10 to 12 sq. ft. per seat; for kitchen, approximately one-third dining space; storage and employee facilities in addition.

Location of space. Ground floor or first floor preferable. Preparation and serving on the same floor if possible. Staple stores may be located in basement if adequate elevator provisions are made.

Orientation for good natural lighting and ventilation. These must be supplemented with artificial lighting, good suction provisions over the cooking areas and air-conditioning when possible, especially in warm climates.

After these general decisions, preliminary plans will be drawn, with the dietitian and the architect checking the following details:

Delivery of supplies

Entrance point for delivery of supplies: avoid ramps; avoid entrances at tops of hills in cold climates where roads are likely to be slippery. Do not put delivery entrances near sleeping rooms; the noise is disturbing.

Office of food controller should be near entrance point. This person checks and weighs all material on delivery.

Platform and portable scales, unloading table (portable) and checker's desk should be near entrance point.

Provisions for linen and uniform delivery and collection and dispensing of these items to employees must be considered in delivery point planning.

Corridors (at least 6 ft. wide) *and doorways* (at least 4 ft. 8 in. wide) to permit delivery of all types of containers and use of trucks. Avoid ramps, stairs and elevators if possible. If service elevator is required, provide one at least 5 by 7 ft. in depth, 3500 lb. min. capacity.

Storage of supplies

Storage of staple foods. Space should be carefully calculated on the basis of amounts of food to be stored as determined by accessibility to market, numbers to be fed, and types of menu. *New food processes, such as deep freezing and dehydration, will make drastic changes in the nature and type of storage space required.* Storerooms should be well lighted and should contain the following equipment: metal shelves; platforms for bulk storage; sink for cleaning purposes; scales; tables; and space for any records which may be kept there. Staple food storage space should be located in cool areas of building; running pipes should be avoided, especially those which are heated at any time. Storage areas should not be located next to boiler rooms; must be easily accessible to delivery entrance.

Storage for root vegetables. Space required is calculated as for staples; should provide slatted platforms or bins easily cleaned; should be in cool, well-ventilated areas.

Storage for foods which must be kept under refrigeration. Wide ranges of temperature and types of refrigeration are required in modern food service. Calculate space requirements as for staples. Storage space is required for meats, dairy products, fresh fruits and vegetables; for holding ice cream and frequently for making it; and, in many instances, for the deep freezing of uncooked and cooked foods and for holding these items.

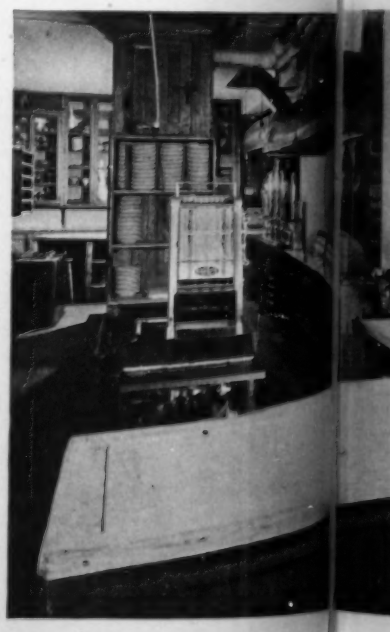
Ice-making provisions may also be necessary and in all cases provision must be made for holding of ice for beverages and for chipping and transporting it to the storage and serving points.

Walk-in boxes for preliminary storage must be accessible to delivery entrance. Floor insulation for walk-in boxes should be placed flush with corridor floor levels so that trucks may be rolled in with ease.

Boxes for prepared foods must be accessible to units in which they are to be used. In some serving areas it may be convenient to open reach-in boxes from both sides.

Preparation of vegetables and fruits

Preparation areas must be easily accessible to delivery entrance and to refrigerators. In some modern installations, fruits and vegetables are prepared for final finishing before being put into refrigerators. This saves a great deal of space and avoids double handling of materials. In such a plan the routing of vegetables and fruits to



"Before and after" views of equipment layout in Johnson Hall Cafeteria, Columbia University. New arrangement eliminates serious impediment to food and customer handling caused by obtrusive columns in original counter plan

* Dr. Bryan is Supervisor of Food Service and Professor of Institution Management at Teachers College, Columbia University. Photos: Courtesy S. Blickman, Inc.; Owen Webber

refrigerators should be by way of preparation rooms. Refrigerators must also be accessible to the cooking and finishing areas. Vegetable and fruit preparation areas must provide: *ample table space* (may be portable); *adequate number of sinks* conveniently located (at least two in addition to the peeler sink); *convenient location* of machines such as peelers, mixers, slicers; *navigation space* for hand trucks and delivery wagons; *adequate shelves; excellent lighting* (20–30 f.c. on work surfaces); *no cross traffic* to refrigerators through preparation space; *routing from the preparation area* without cross lines of traffic to cooking areas and with minimum handling in a direct manner.

Cooking

Placement of equipment to provide adequate work space; smooth flow of materials being processed.

Connections for each item of equipment such as gas, electricity, hot water, cold water and drains must be carefully considered, and *extra power and outlets to take care of possible developments in electronic cooking.*

Suitable ventilation: Cooking equipment requiring hoods should be centralized; 6280 cu. ft. of air change per minute per sq. ft. of hood is recommended. *Excellent lighting* over all work areas (20–30 f.c.).

Serving

Routing from refrigerators and cooking area to serving points must be accomplished with minimum handling and in direct flow for both hot and cold foods.

Space for proper holding of hot and cold food must be provided at service points just preceding service.

Delivery of dishes to serving areas, return of dishes from serving areas to the dishwashing unit and subsequent delivery of clean dishes again to serving areas must be carefully worked out. *Space for storage of dishes,* trays, silver, linen, etc. are required at points of service; portable shelves under counters may be used.

Serving area must be well lighted and attractive.

Checking and cashiering facilities, if cafeteria, must be provided.

Routing for waiter or waitress, if service, must be carefully planned. *Routing for bussing* dishes, if service, must be considered.

Cleaning

Floor drains are required at suitable points throughout the storage, preparation, kitchen and service areas and around steam equipment. Steam connections should be provided for cleaning kitchen. *Slop sinks* must be conveniently located for adequate mopping and cleaning

of all food preparation and serving and dining areas.

Provision for storage of cleaning equipment and cleaning supplies must be made. This will include a room for storing portable trucks for holding mops and brooms which would otherwise be left to stand on floor and lean against walls. *Cleaning closets* must be well ventilated and lighted. *Provision for washing and drying mops* must be included. *Good lighting* of cleaning closets and corridors is essential.

Garbage disposal (to be specifically determined by situation). General provisions include:

Garbage cans on dolly trucks at all points where waste is collected. *Garbage refrigerator*, if garbage must be held. *Incinerator*, if feasible. *Garbage grinding machines* installed in soiled dish tables and at preparation areas may be used in addition to garbage cans.

Provision for washing garbage cans: water, steam, drain, in a suitable area (inexpensive washing machines are available). *Racks for drying* and storage of garbage cans. *Provision for handling* other types of waste, such as paper, containers, etc.

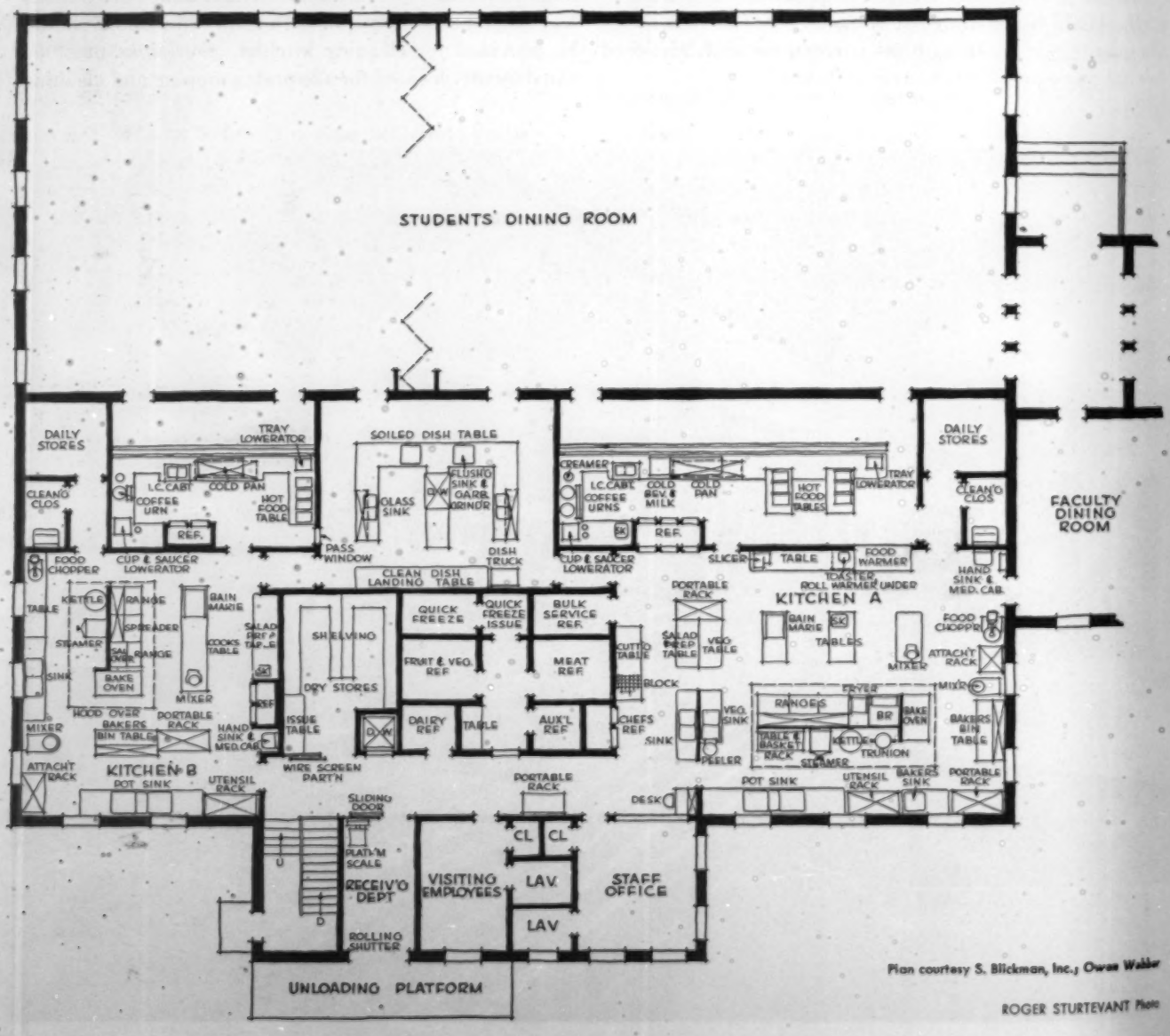
Provisions for guests

Service and dining rooms must be as accessible as possible to all residents of the building.

Cloak rooms must be provided if guests come from outside or from other buildings. *Provision for leaving or checking books* must be considered.

Space for students to stand while waiting to reach the serving counter must be provided if the service is cafeteria style. *No cross lines* of guest traffic.

Plan below shows great flexibility in use. Kitchens A and B can be used singly or combined, with all or part of dining space. (Agricultural and Technical Inst., Morrisville, N. Y. Project of N. Y. State Post War Public Works Planning Commission: Gerard Betz, Architect; Owen Webber, Counsel on Public Feeding.) Photo cross page shows use of glass in place of metal kitchen hoods at U. S. Merchant Marine Cadet Basic School, San Mateo, Calif.; Gardner Dailey, Architect.



Plan courtesy S. Blickman, Inc.; Owen Webber

ROGER STURTEVANT Photo

Dining spaces should be pleasingly and suitably finished and decorated in materials which can be kept immaculately clean at minimum cost. *Sound deadening* is essential in all dining areas.

Provisions for personnel

Entrance and exit, preferably only one, under control of manager or kitchen supervisor. *Time clock* at a location where it may be punched by employees *in uniform*, ready for duty, and *in uniform*, going off duty.

Adequate locker rooms for changing from street clothes to uniforms and for safe keeping of employees' belongings. *Washroom facilities:* adequate toilets and bowls (ratio of fixtures to employees will vary with local codes); *soap and paper towels* in containers near entrance to locker rooms; in some climates it is necessary to provide showers. *Comfortable rest rooms* for short periods off duty during working hours. Rest rooms should be well ventilated and lighted and simply but attractively furnished with regard for maximum cleanliness.

Drinking fountains in rest rooms and in kitchen.

Hand sinks for use of employees in kitchen.

Separate locker facilities for student employees; anterooms where they may change uniforms; wash room.

Provisions for special occasions

Additional rooms which can be thrown into large dining rooms or used for small groups as desired.

Provision for food service in dormitory social rooms such as lounges and game rooms.

In all provisions for special occasions, consider: *accessibility* to main preparation and service areas; *extra cloak room* facilities; convenient storage space for additional supplies and equipment required for special service.

DORMITORY MAINTENANCE

By Style and by Common Sense

By Lewis S. Beach

Mr. Beach is Manager of the Division of Maintenance and Construction, Yale University. He throws an impartial light on the effect on maintenance of the two main current "styles" and of different materials. His suggestions are appended.

IN ALL buildings where healthy able-bodied students live, the maintenance costs of the dormitory section depend not only on the architecture and construction and materials, but also on the will of the occupants. The effect occupants have on the maintenance cost is no small item. In spite of rugged construction and rigid restrictions, a group of residents can materially increase the maintenance cost during their period of occupancy. In these times of over-crowded rooms and in buildings bulging at the seams, records of maintenance costs are of little value in long-range planning.

In any large college or university in the United States the residential units tend to be built in "quadrangles" or "colleges." At Yale the average "college" normally houses from 170 to 200 students in single study-bedrooms and double suites of two bedrooms and a study. There are residential accommodations also for the Master of the College and his family and for four resident Fellows, besides an office for each non-resident Fellow. Each college has its own dining hall, in which all members are expected to take the majority of their meals. Each dining hall is serviced by a fully equipped kitchen, storage rooms, and preparation rooms. The college has its own library and common rooms, a minimum of two squash courts and several small recreation rooms.

This variety in the types of occupancy calls for special equipment and construction details. In the Master's house are to be found all the maintenance problems of a large private home; in the dormitory, those of a hotel.

At Yale the architecture of the residential quadrangles is Gothic and Colonial. The first group was done in pure Gothic. There has been a gradual trend toward Colonial as new units were planned and constructed. The facades of the Colonial units adjacent to the Gothic have been treated in like architecture and through this median there is a gradual transition from Gothic to Colonial. As a result of this excellent architectural treatment the entire group blends into one homogeneous unit.

In considering various kinds of material employed in the construction of these units we must apply the acid test; namely, Time. The College units have been in operation from seven to sixteen years. The exteriors of two units were erected as dormitories twenty-nine years ago, and subsequently altered into residential quadrangles. All of these units are young in years and consequently maintenance cost records on them are quite different from buildings of normal college age. Climate and location are important. Maintenance costs are high on buildings located in a climate where the changes in temperatures are sudden and large. Costs are also high in a city of manufacturing as compared with the atmosphere of the open country.

Yale's residential quadrangles, like all educational institutions which have taken part in the Armed Forces Training Program, or which have been operating under an accelerated program, have suffered high maintenance costs during this period. This factor must be considered in any study and allowances made for the excessive costs resulting from the heavy traffic of the war years.

Gothic and Colonial cost figures

The tabulations on page 123 are unit *indices*. They do not represent dollar costs though derived from them, and are to be considered for comparison only. The figures show unit indices per thousand cubic feet gross building volume. The volumes are given in thousands of cubic feet under each building. In making up these indexes we have omitted years when costs were abnormal. The "Two-Year Cost Total" covers all items of maintenance. The figures under "Routine" and "Special" are in general over a two-year period. "Routine" includes those items of maintenance occurring daily, mostly small; but which in the course of a year amount to a sizeable portion of the total cost. "Special" includes the larger items of maintenance. These two classifications are the result of a new system of accounting and budgeting inaugurated four years ago. The other classifications are self-explanatory and are considered part of the "Special" account under our present system. In general these costs are of eight-year and ten-year average.

Where the styles cost piles

The difference in cost between Gothic and Colonial buildings is small. In the tabulation, "Routine" items show the greatest difference and this in favor of the Colonial type. Many factors enter into this item. Under "exterior" there are snow removal and roof leaks which we know are high on Gothic buildings. The narrow balconies and recesses, and the lack of gutters, all tend to make trouble when snow and ice come. The selection of plumbing and electrical equipment has a great deal to

* Interesting further discussion will be found in an article by William W. Randolph, assistant to general manager, Yale Service Bureau, in the annual report of the Connecticut Society of Civil Engineers for 1939.

do with interior "routine" costs. The type of architecture of a building has little effect on this selection except in a few instances, such as electric fixtures in the large rooms. Although there is a definite saving through the use of brick on stair and corridor walls, this saving can be eliminated by one bad plumbing leak or an electrical failure involving removal and replacement of the brick. "Routine" costs are also determined by the occupants. There are so many factors which determine this cost that we do not believe "Routine" should be considered in making a comparison.

Pointed architecture costs for pointing

The "Pointing Costs" are higher for Gothic buildings. Wide mortar joints cause trouble. Parapets on roofs and at balconies require pointing and waterproofing. Colonial architecture with its simple masonry construction and tight mortar joints is less costly.

Roof costs are high for Colonial types in the tabulation, but one large factor must be considered and a correction made before comparing. There are, or have been, large areas of flat tile decks on these buildings. Many of these have been replaced with slag built-up roofs. This has been a costly maintenance item.

Little panes are big pains in painting

"Out-Painting Costs" are very much in favor of Gothic design. Sash is the large item of this cost. Wood sash and sills require more frequent painting than do steel or bronze, with much time taken on the muntins.

"In-Painting Costs" are less for Gothic. Brick and tile walls on stairs and corridors, oak wainscoting in rooms, rough plaster walls and ceilings and, in general, a more somber treatment of the interior, make for lower maintenance costs than do plaster wainscoting, smooth plaster walls and ceilings in rooms, corridors and stairs, and a lighter treatment of paint colors and wallpaper.

It is difficult to arrive at a definite conclusion that because a particular building is built in Gothic or Colonial style, it is going to be less expensive to maintain. There are advantages to certain elements of each type of architecture. Should the best of each of these ever be combined on one building, that building will be the dream come true for the maintenance man.*

Please don't do these things

No matter what the style of architecture, there are certain "Don'ts" which may be of interest to architects and engineers. These have been selected at random. They are offered in a spirit of friendly and constructive observation, based on experience.

1. Don't specify many different types and kinds of equipment for buildings which become in time component parts of a larger unit. Standardize even at the risk of being classed unprogressive.
2. Don't fail to keep a complete record of all changes in the plans. It costs money to try to locate something where it "ain't."

* *That building would simply be a contemporary building. The idea that you have to build less well than you know how, in order to stick with an ancestor who knew less than you do, is a purely collegiate aberration. — Ed.*

SUMMARY OF MAINTENANCE COST INDEXES — RELATIVE COST PER 1000 CUBIC FEET PER YEAR

Unit	Two-Year Cost Total	Routine Items	Special Items	Pointing	Roofs	Out-Painting	In-Painting
Gothic Buildings							
A — 2020 M cu. ft.	2.23	1.50	.83	.23	.03	.08	.18
B — 1768 M cu. ft.	2.13	1.78	.52	.08	.01	.05	.42
C — 1423 M cu. ft.	2.52	1.83	.75	.03	.16	.09	.65
D — 1422 M cu. ft.	2.76	2.10	.55	.18	.08	.14	.59
E — 2188 M cu. ft.	2.23	1.45	.78	.15	.03	.10	.22
F — 1317 M cu. ft.	3.49	2.10	1.52	.26	.14	.06	.34
Average	2.56	1.79	.83	.12	.08	.09	.40
Colonial Buildings							
G — 1580 M cu. ft.	2.48	1.46	1.13	.14	.08	.26	.67
H — 1675 M cu. ft.	2.03	1.45	.70	.04	.06	.20	.25
I — 1583 M cu. ft.	2.48	1.65	.86	—	.20	.40	.51
Average	2.26	1.52	.89	.09	.11	.28	.48

3. Don't omit lead or metal caps on tops of chimneys. A single protecting piece of metal which keeps water out of the masonry will save expensive pointing and waterproofing treatments.
4. Don't use wide joints in exterior masonry. These are a constant source of trouble.
5. Don't make "special orders" of standard articles of equipment. Ten years after construction it is almost impossible to get repairs or parts for such items, and expensive replacements are necessary.

Ideal for maintenance

So much for the "Don'ts." The ideal structure for economical maintenance should incorporate the following materials and design elements:

Roofs. Slate where surfaces are sloping. (Omit Golden Pheasants.) Slag built-up roofing on flat surfaces gives much less trouble than other types that may rise and leak. Overflow scuppers for all areas having parapets. The upper glass in a skylight must overlap the lower; not be butted against a strip joint. *Roof insulation* must in our opinion always have a breathing space of changing air above it, even when vapor-sealed. On the roof ridge, lead does best when coated on copper for added strength.

Exterior Walls. A good hard-burned brick laid in lime-mortar with a tight joint. A minimum of soft stone trim. Through metal flashings under all cap-stones. *Mortar:* The old Bureau of Standards cement formula tended to shrinkage and cracks, and is being superseded, in good practice, by the newer formula of 1 part cement, 2 parts lime putty, 5 parts sand.

Windows: Steel or bronze, each securely anchored and well caulked and equipped with a simply sturdy adjuster.

Doors. Oak doors designed to eliminate all ledges and recesses which might hold water.

Interior stairs and corridors. Walls of brick or tile and floors of concrete integrally colored are our best recommendation.

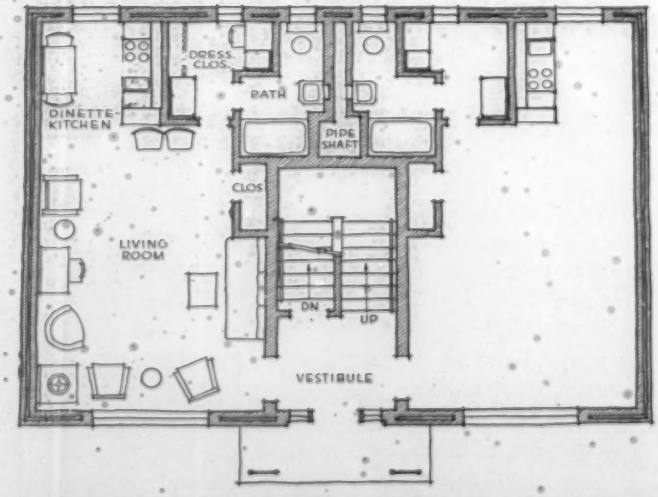
Walls of rooms. In men's dormitories, from a maintenance standpoint, oak wainscoting with smooth painted plaster above on walls and ceiling will best "stand the gaff."

Heating system. A two-pipe hot-water system with a heat exchanger if on steam system.

Plumbing system. All fixtures standard, installed with brass pipe or tubing equipped with sufficient control valves.

Electrical system. Standard equipment with sufficient capacity for future expansion. Lighting to be ample, simple, and with standard fixtures.

It is easy to give "Do's" and "Don'ts." It is difficult to incorporate these in the design of a building which has to fulfill definite requirements beyond easy maintenance; but the problem is a real challenge to architects, engineers, and maintenance men.



RESIDENCES FOR MARRIED STUDENTS

Purdue University

Walter Scholer, A.I.A., Architect

A building type such as that shown here could scarcely have been imagined in 1939 or earlier. The rendering indicates a group of apartment houses for married students at Purdue. This means married veterans, of course. In the total program, now under construction, there are 22 groups similar to the one sketched, containing 200 apartments. Some are provided with additional bedrooms and there are other variations in plan.

The buildings are of brick cavity-wall construction, and the plans, as may be seen, make every last use of compactness.

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Q. What does noise do to people to affect them so seriously?

A. "There is both practical and experimental evidence," says the *Manual of Industrial Hygiene* of the U. S. Public Health Service, "to indicate that noise produces fatigue, decreased efficiency, impaired hearing, emotional disturbances and neurosis."

Q. How does sound conditioning stop noise?

A. Sound is reflected from a hard surface just as light is reflected from a mirror. Thus in an average room with hard plaster walls and ceiling, the sound, traveling at an approximate speed of 1120 feet per second, will bounce around the room in all directions many times before the energy it contains is dissipated, or absorbed. In a sound conditioned room, the sound is not sustained by repeated reflections. And loudness is lessened because the original sound dies out faster.

Q. What's the most widely used sound conditioning material?

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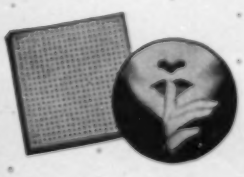

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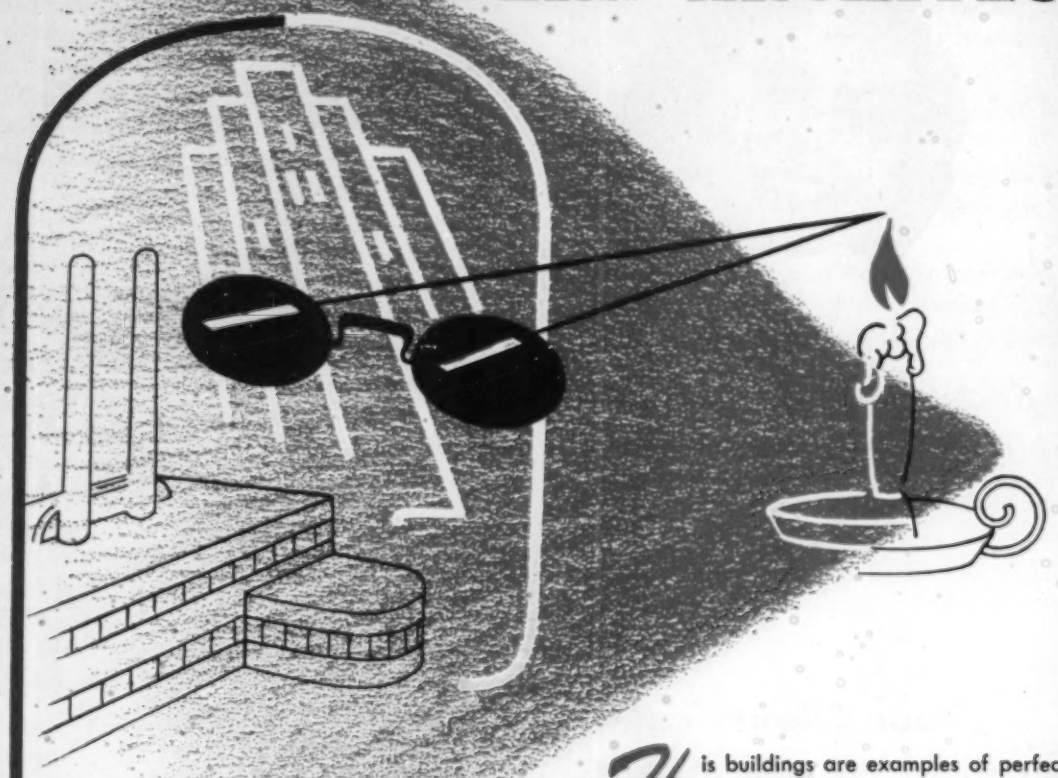

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COLLEGE DORMITORY PLAN ELEMENTS

Check list of units and recommended practice

Prepared with the assistance of Elizabeth C. Gibbs, Manager of Residence Halls, Teachers' College, Columbia University. Acknowledgements are made to Moore & Hutchins, Shreve, Lamb & Harmon, Hornbostel & Bennett, Jens Larson, architects.

STUDENT BED and STUDY ROOMS:

Single: Approximately 40 sq. ft. of space is required for mere placement of furniture, based on the following usual dimensions: *bed*, 3 by 6½ ft.; *dresser*, 1½ by 3 ft.; *desk*, 2 by 3 ft. (minimum); *bookcase*, ¾ by 3 ft.; *chair (desk)*, 1½ by 1½ ft.; *chair (easy)*, 2 by 2 ft. Provision for arrangement and use of these articles requires a total space allowance of at least 80 sq. ft. Additional provision for marginal and "living" space sets a total single room standard of 108 sq. ft. of clear space, *minimum*, with 120 to 140 sq. ft. desirable. Width of single room should never be less than 8 ft.; 9 or 10 ft., preferable.

Double: Two hundred sq. ft. of clear space, minimum; more where possible. Twelve-foot minimum width is desirable to provide each student with his own bed, dresser, desk, study and easy chairs, and at least part of a bookcase, suitably arranged in relation to convenience, comfort and light.

Bookshelves: Twelve feet of bookshelf space is required for graduate students; 6 ft. for undergraduates. Built-in shelves are recommended.

Closets: Space should not be taken off room area. Closets should be for *individual* use, with 32 by 40 in. the absolute minimum allowance; more is particularly desirable for women and in moist climates. All closets should be ventilated (louvered); should provide: shelves for hats, racks for shoes, rods high enough for long evening dresses. Towel racks should not be installed in closets.

Electrical outlets: Provision should be made for desk, reading, and bedside lighting and a light over the lavatory, where present. At the desk, within student's field of view (at least 150°), brightness ratios over large areas should ideally approach unity, with ratios of 3 being still considered good. If light on the desk is 25 f.c. and the reflection factor of tasks is between 45 and 80 per cent, then footlamberts of brightness should be not less than 5 f.l., minimum, or 15 f.l., desirable. In practical terms, even a strong down light on the desk will not achieve this standard by itself, and in some form (indirect or direct-indirect), additional light must be thrown on surfaces in this area.

Locks: It is desirable to have the same key open room door, closet door and post office box.

BATH and TOILET FACILITIES:

Lavatories should be included in individual rooms, especially women's, wherever possible. Medicine cabinets, glass shelf, towel rack and good light should complete the installation.

Common bath and toilet rooms. Separate but adjoining rooms, one for toilets and basins and one for showers, is preferred arrangement. Currently acceptable ratios of fixtures to users are as follows: 1 toilet to 5–6; 1 shower to 6–7; 1 basin to 3–4 (where lavatories are included in individual rooms, 1 or 2 basins in the common area are considered sufficient). In women's dormitories, tubs, in addition to showers, must be provided at a ratio of 1 to 15–20. Minimum space allowances are: 3 by 4 ft. for each toilet compartment; 5½ by 6 ft. for each tub; 3 by 4 ft. for each shower compartment; 3 by 4 ft. towelling space for each shower; 3 by 4 ft. for each lavatory compartment. Additional space must be provided for access.

SOCIAL and RECREATIONAL ROOMS:

More elaborate in women's dormitories than men's. Possible provisions are:

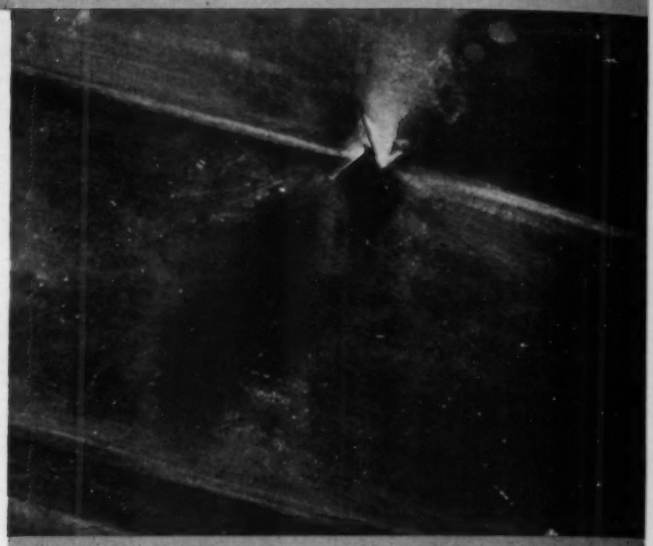
Large main living room: easily accessible from the main building entrance and large enough to accommodate comfortably all the members of the unit. Plan for removal and temporary storage of furniture during dances. Adjoining kitchenette and service facilities are usually provided. Supplementary rooms or alcoves are often provided for entertaining small groups (parents, etc.).

Smaller lounges or smoking rooms, preferably one on each floor, equipped with easy chairs, radio, card tables, etc. Kitchenette may be provided in conjunction with 1 or 2 burner electric stove, sink, work counter, refrigerator, closets and cupboards.

Recreation or game room providing for ping-pong, radio, phonograph, etc. An adjoining kitchenette is also desirable. Plan for removal of furniture for dancing. Avoid locating rooms in basement.

THIS IS THE PROBLEM...

Effect of one application of heat on a 16 oz. soft copper gutter installation. Note the bulges on the side and bottom of the gutter, and the pinching effect at the point of stress where the copper sheet is bent.



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Library, preferably on an upper floor so that dormitory occupants may use it in informal dress.

The elements listed above may be combined in various ways, but total space allotment for social and recreational rooms should be not less than 20 sq. ft. per student housed.

Guest facilities should include coat room, connecting toilet and lavatory, adjacent to main entrance. Overnight accommodations should include bedrooms, baths; living rooms, if possible.

ADMINISTRATIVE UTILITY ELEMENTS

Administrative office, near the main entrance, usually provides for student mail, messages, packages, etc.; telephone service; record keeping in connection with student life and house management. Customary space allowance is 15 sq. ft. for each desk and its chair; 5 ft. in front of each filing cabinet; aisles between tables and desks. 3–4 ft.

Corridors should be at least 5½ ft. wide to permit passage of maid's truck, furniture and trunks.

Sink and utility closets, large enough to hold maid's truck, vacuum cleaner, brooms, mops, etc.; at least one on each floor; ventilated to the outer air.

Linen closets should be provided on each floor, with white enameled shelves and counter space.

Incinerator with hopper doors, and *Linen chute* with openings on each floor.

Trunk storage space, allowing at least 45 cu. ft. per trunk; if racks are used, additional space must be allowed for handling and movement; *Hand luggage store rooms* on each floor.

Freight elevator is required even in a two or three story building. Should be automatic and large enough for trunks, furniture, stretchers.

Passenger elevator is required in all halls with more than three living floors. Need exists for street level entrance for students in wheel chairs or on crutches.

Housekeeper's office and linen room, preferably on ground floor near employee's and delivery entrance; with storage and counter space for linens and supplies. Provisions for sewing and mending, and for cleaning furniture, rugs, etc.

Locker, lunch, and rest rooms for employees should be adjacent to housekeeper's office.

Laundry. In dormitories with over a hundred beds, with assured steady patronage from this number, house laundries are frequently operated on a self-supporting basis.

Living space for staff and employees. Suites for directors and members of the house staff should be segregated from student areas. Employees such as cooks, maids, etc. should have separate entrances to their living area and well-lighted single bedrooms of 100 sq. ft., minimum; double rooms not less than 160. Staff members usually eat with students; employees should have own dining room.

STUDENT UTILITY ELEMENTS

Laundries, and pressing rooms are for the most part provided only in women's dormitories. Except where students do all their own clothing and room laundry, 1 tub for 25 occupants is usually adequate, with each tub requiring a minimum of 2 by 6 ft. Pressing boards require 4 by 6 ft.; a fair proportion of irons and boards is usually 1 to 20–25 students. Drying rooms or cabinets are essential. Although laundry elements are frequently centralized, smaller units on each floor are preferred, possibly in combination with kitchenettes.

Sewing rooms are considered essential in women's dormitories, and should include one or two electric sewing machines, long mirror, long work table, ironing facilities unless element is combined with pressing room. Ratio of equipment: 1 to 20–25 users.

Shampoo rooms with shampoo bowls, rinsing sprays, electric dryers, etc. are sometimes provided.

Typing and music practice rooms — isolated or soundproofed — are often provided.

Sports equipment storage and maintenance space is particularly desirable in cold climates.

Telephones. The most satisfactory arrangement is a switchboard in the administrative office, a corridor telephone for each 20–30 residents and a two-way buzzer system to each room.

Infirmaries, if appended, should be isolated at ends of wings nearest kitchen; separate entrances.

Kitchens and serving areas are not treated in this T.S.S. For discussion and check list by Dr. Mary DeGarmo Bryan see AR, April '46, p. 118.

For a thorough treatment of elements and planning considerations from the college administrator's standpoint (somewhat dated-1932) see "Planning Residence Halls" by Harriet Hayes.

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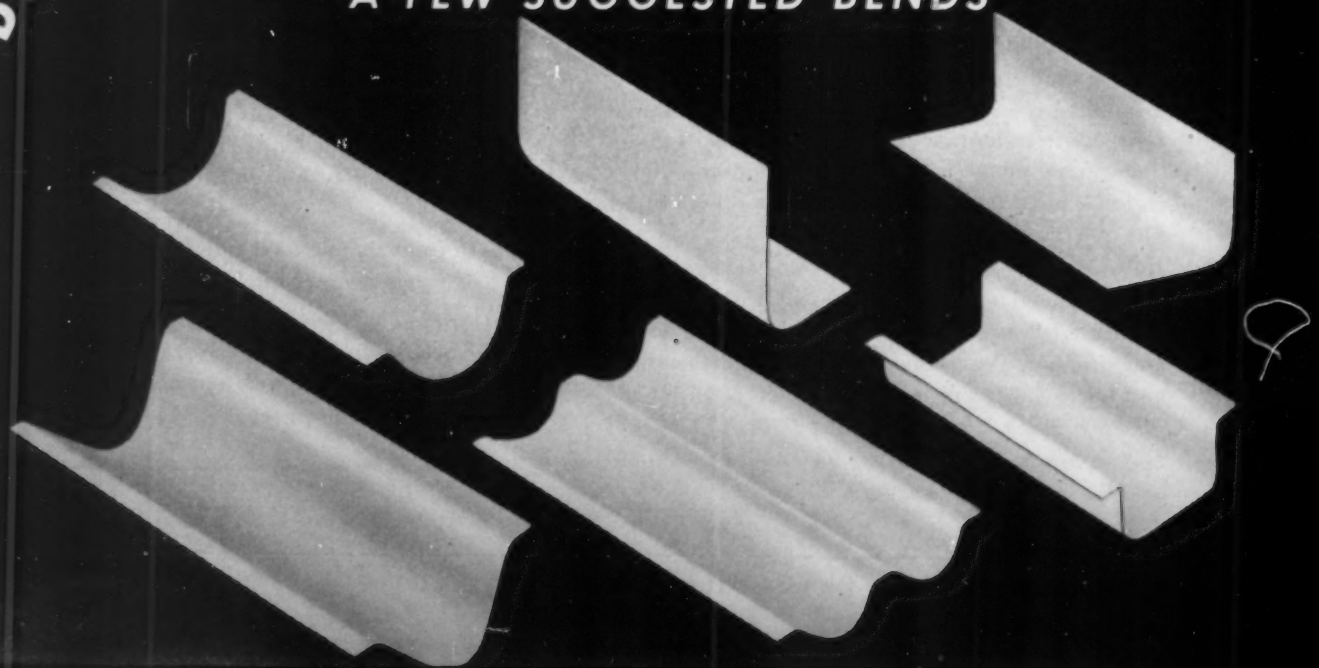

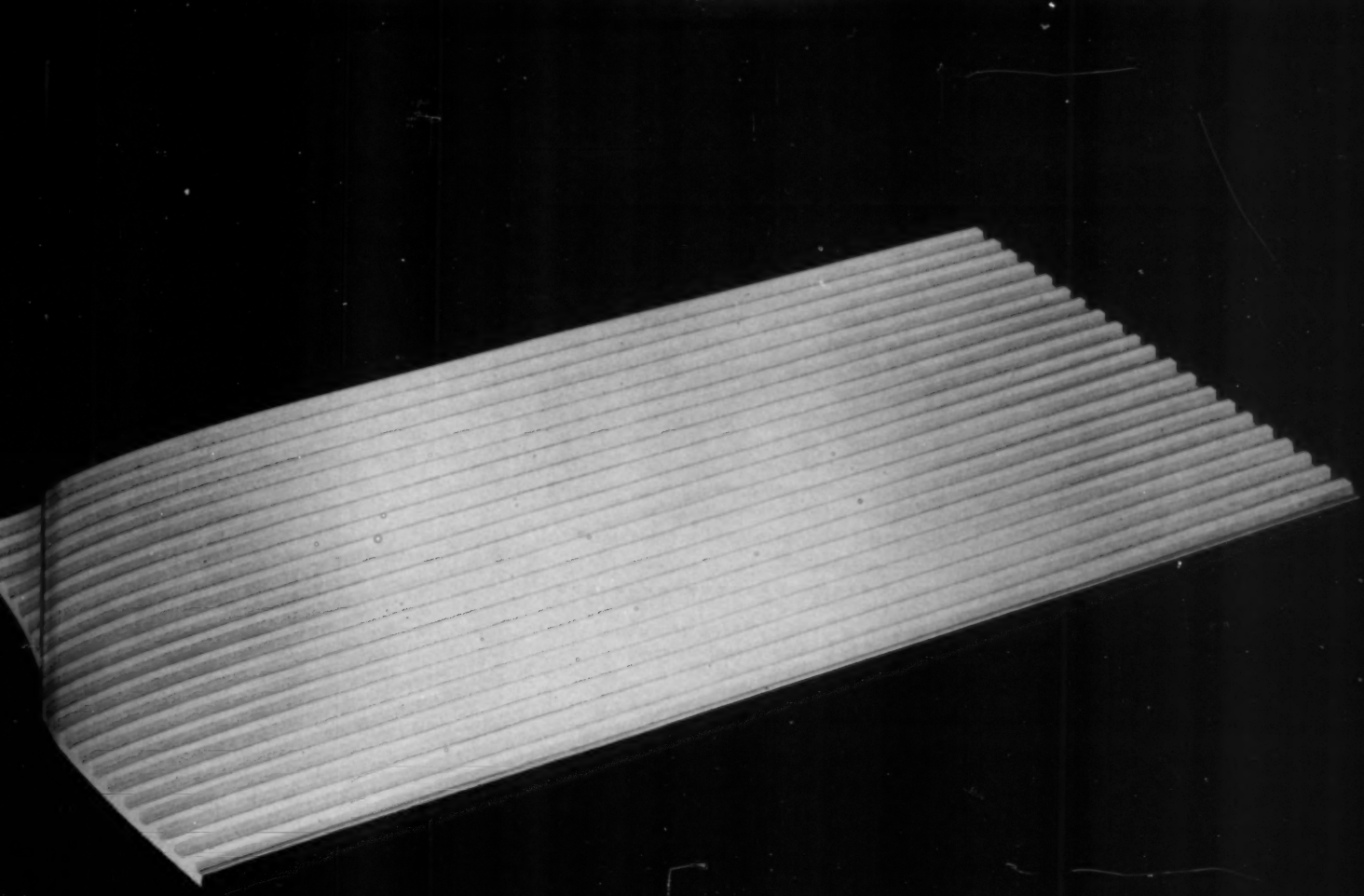

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REQUIRED READING

CITY PLANNING

The Art of Building Cities. By Camillo Sitte. Translated by Charles T. Stewart. New York (330 W. 42nd St.), Reinhold Publishing Corp., 1945. 8¼ by 9 in. xii + 128 pp. illus. $5.50.

When a book on city planning, written by a Viennese architect and originally published in 1889, is translated into English for the first time in 1945, it might be expected to prove, as this volume does, the timelessness of good planning. The art of building cities was an old art long before this book first appeared, and its guiding principles have not varied much from the precepts laid down by the ancient Romans. This 57-year-old classic might have been written only the day before yesterday. Consider:

"The pros and cons of various city planning systems have become pressing questions of the time," Camillo Sitte wrote in the preface to the first edition. They certainly remain so today. And one of the principal requirements of practical city building he emphasizes is "to rid the modern system of blocks and regularly aligned houses."

Considerable space is devoted to a study of the public square and the placing of important buildings thereon. The deep square for the slender Gothic building, the wide square for the expansive, are suggested as the goals to strive for. The square must be neither too small nor too large: "Experience shows that the minimum dimension of a square ought to be equal to the height of the principal building in it, and that its maximum dimension ought not to exceed twice that height unless the form, the purpose, and the design of the building will support greater dimensions." As for the placement of buildings and monuments, the center of the square is just out as far as Camillo Sitte is concerned. With diagrams and descriptions of well-known ancient squares he explains why.

"It was Sitte's contention," says Arthur C. Holden, in his supplementary chapter to this English translation, "that fundamentals, though long neglected, can be uncovered. Even the gridiron pattern of the modern American city is not hopeless. Space can be opened up. Design can be achieved by thinking more of the grouping of buildings and by planning for the outdoor space between them than by confining our efforts to the design of individual façades which can never be seen anyway except as part of unrelated compositions."

An interesting feature of Mr. Holden's supplementary chapter is his analysis of New York City and Washington, D. C., in the light of Sitte's theories.

U.S.S.R. BUILDING

Proceedings, American-Soviet Building Conference. New York 16 (114 E. 32nd St.), Architects Committee, National Council of American-Soviet Friendship, Inc., 1945. 6½ by 8¼ in. 206 pp. illus.

About 250 American and 50 Soviet participants attended the American-Soviet Building Conference last spring. Their discussions followed four main lines: building industry organization; prefabrication; industrial buildings; and mechanical systems and utilities of the small house. Here is a complete transcript of the entire conference.

TOURIST CABINS

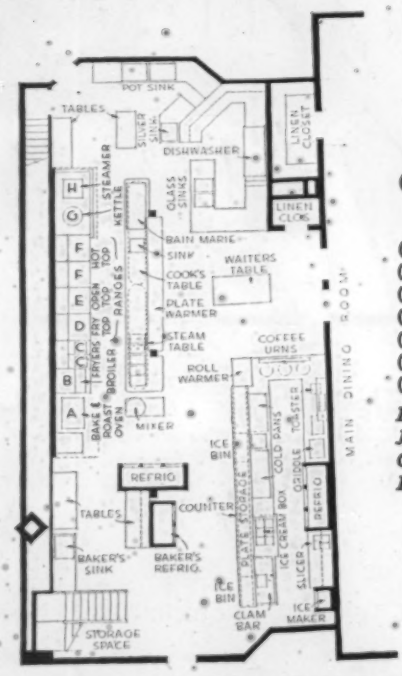
Tourist Court Plan Book. Temple, Texas, Tourist Court Journal, 1945. 8 by 12 in. 84 pp., 51 plan sheets, illus.

From the staff of *Tourist Court Journal* comes this handy workbook on motels. Containing a series of articles on financing, location, layout, air conditioning, plumbing, dining facilities, landscaping, etc., it offers a variety of plans for cabins and main buildings.

(Continued on page 134)

KITCHEN PLAN NO. 34: Thirty-fourth of a series of successful mass-feeding kitchen plans.

For the small resort hotel, the combination roasting and baking oven performs an ideal service — when laid out as it is on this plan for the Seaside Hotel at Ocean Grove, New Jersey.



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(a) 1 No. 959 BLODGETT BAKING AND ROASTING OVEN
(b) 1 Heavy duty broiler
(c) 2 Deep fat fryers
(d) 1 Fry top range
(e) 1 Open top range
(f) 2 Solid top ranges
(g) 1 Stock kettle
(h) 1 Vegetable steamer

Designed by: D. F. Mangin Jr., Federal Manufacturing Company, 75 Roebling St., Brooklyn, N. Y.

The kitchen layout above is a modified form of "Specialized Cooking Tool Installation," and illustrates how our equipment may be installed even in a la carte operations — equipment designed for specific functions. The No. 959 BLODGETT OVEN illustrated removes to its own zone, and away from the range tops, all roasting and baking functions. For details and specifications of BLODGETT OVENS, consult your equipment house or write

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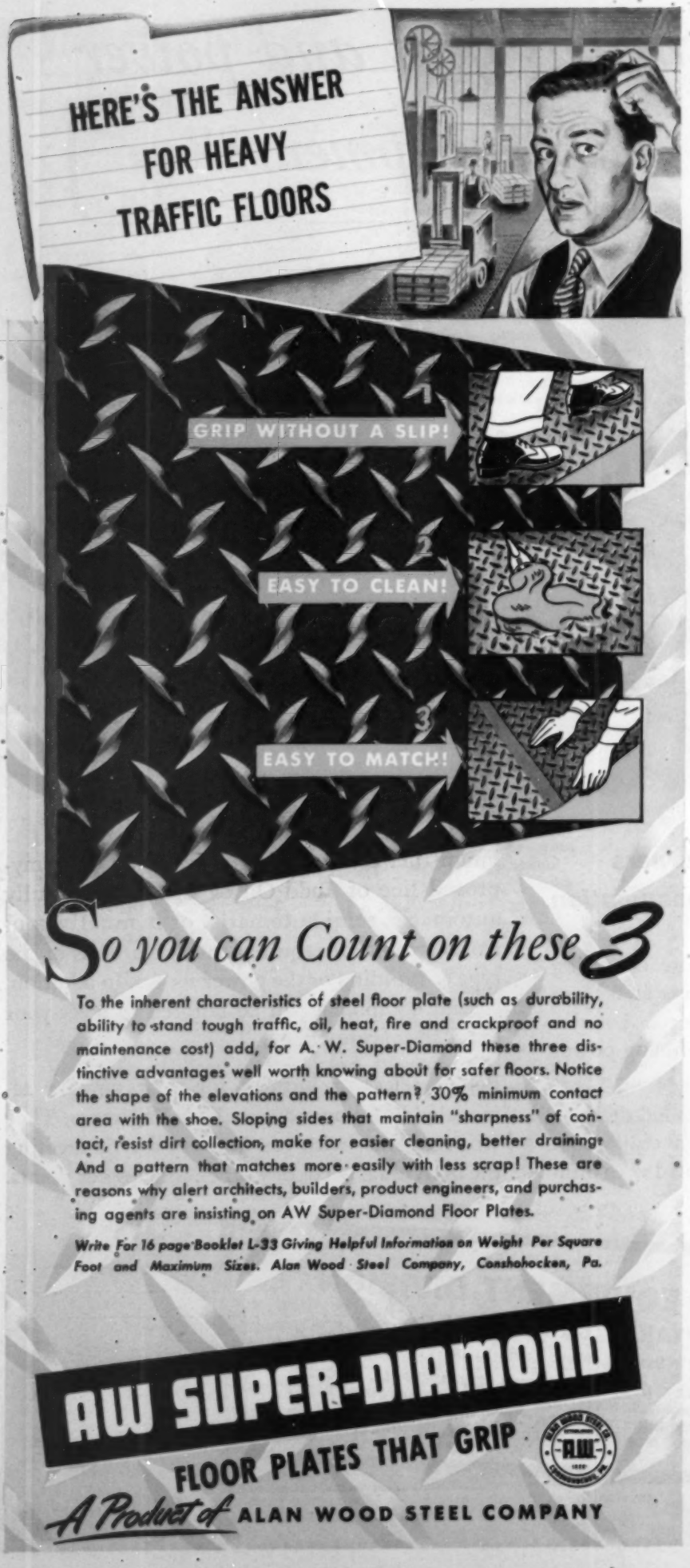
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To the inherent characteristics of steel floor plate (such as durability, ability to stand tough traffic, oil, heat, fire and crackproof and no maintenance cost) add, for A. W. Super-Diamond these three distinctive advantages well worth knowing about for safer floors. Notice the shape of the elevations and the pattern? 30% minimum contact area with the shoe. Sloping sides that maintain "sharpness" of contact, resist dirt collection, make for easier cleaning, better draining. And a pattern that matches more easily with less scrap! These are reasons why alert architects, builders, product engineers, and purchasing agents are insisting on AW Super-Diamond Floor Plates.
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FLOOR PLATES THAT GRIP
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REQUIRED READING

(Continued from page 132)

PUBLIC HOUSING

Report of the Commissioner of Housing to the Governor and the Legislature of the State of New York. State of New York Legislative Document (1945) No. 62. 5 ¾ by 9 in. 62 pp, illus.

Commissioner Herman T. Stichman reports in detail the activities of the New York State Division of Housing for the year ending March, 1945. Of most interest is the inauguration of the Community Development Service, set up to help communities formulate programs of housing and development.

The report includes a useful series of tables giving the "vital statistics" of the various housing projects completed — area, number of buildings, type of accommodations, costs, rentals, etc.

Periodical Literature

SCHOOL LIGHTING

Brightness Control in a Model Schoolroom. By Willard Allphin. New York 10 (51 Madison Ave.), Illuminating Engineering, Jan., 1946, pp. 21–34, illus.

Last summer a classroom in the Bowditch School, Salem, Mass., was remodeled in such a way as to serve as an experimental laboratory for brightness engineering. Here is the report on what was done and what results were achieved.

Among the interesting methods used to improve the seeing conditions were: the use of white chalkboards instead of the conventional blackboards; substitution of cotton crash cloth pasted over celotex for the customary cork in the tackboards; installation of vertical louvers fixed at 90° to the window glass in place of Venetian blinds; use of posture-aiding furniture; and selection of cheerful colors which look the same under daylight as under artificial light.

HEATING

By Forsey Page. Toronto, Can. (57 Queen St. W.), Journal, Royal Architectural Institute of Canada, Jan., 1946, pp. 3–5, 19.

In this article a Canadian architect offers a convincing argument for the "modern well equipped and strategically located central or district heating systems which have proven their value in hundreds of cities and towns all over the world." Mr. Page explains what the system is, how it works, its advantages and its disadvantages.

Also included in the article is a discussion of the possibility of heating buildings electrically, and the pros and cons of panel heating. The special heating and ventilating problems of industrial plants are taken up briefly.

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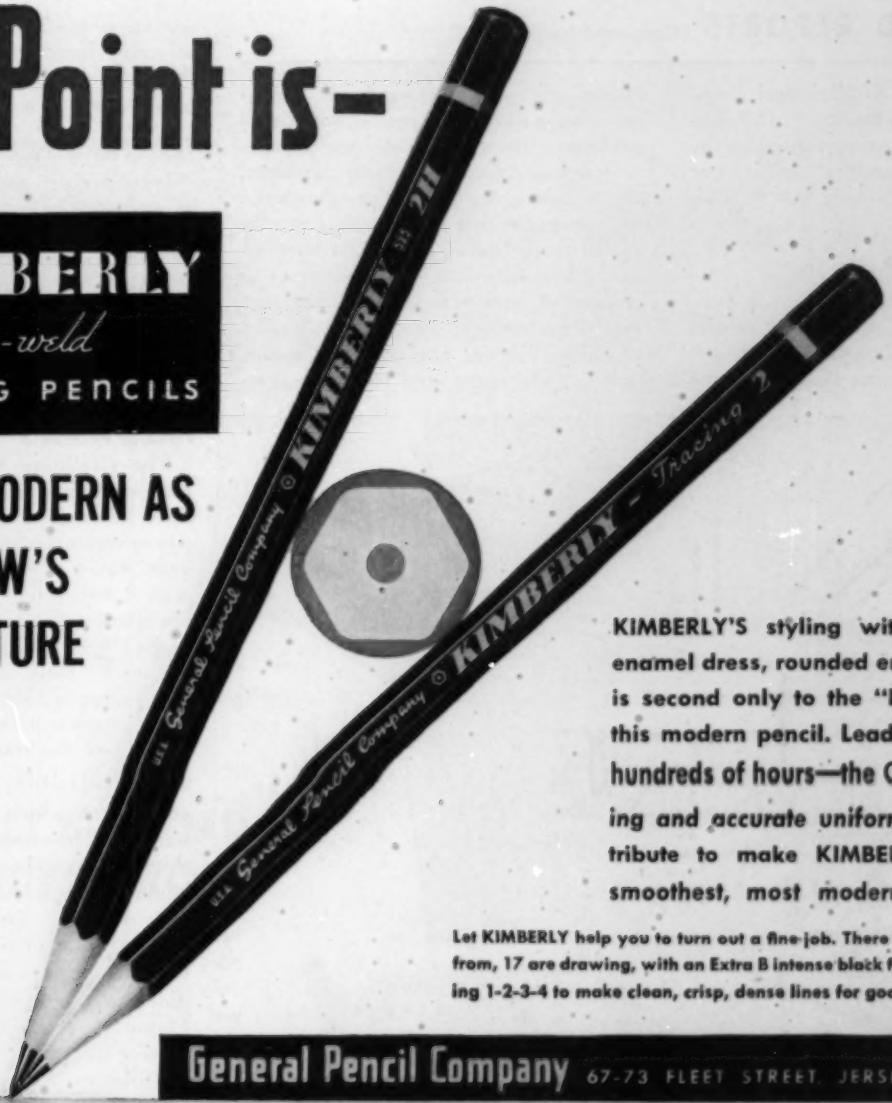

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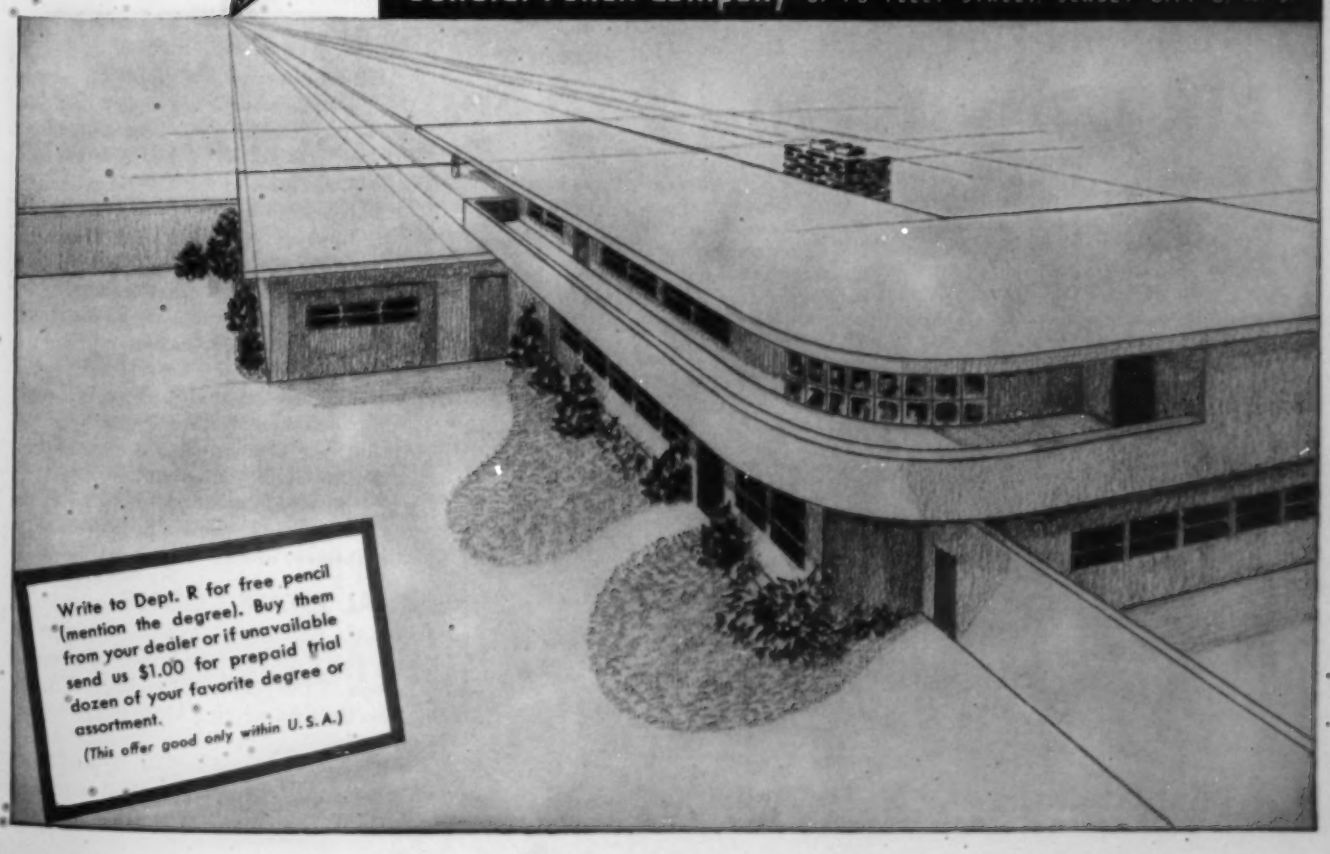

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American Institute of Electrical Engineers; and American Institute of Chemical Engineers. All are represented on the committee. Headquarters are in the Engineering Societies Bldg., 29 W. 39th St., New York City.

DINING SURVEY

Of more than 2,000 American housewives who expressed themselves on the subject of dining facilities in a recent survey conducted by *House Beautiful*, some 90 per cent specifically preferred a separate dining room. The preference existed uniformly throughout all age groups.

In summing up its findings, however, the magazine reports that people want a multi-purpose dining room that can be joined to the living room for entertaining. The center dining room may be eliminated, and new kinds of furniture may be introduced to permit the room to serve diverse purposes. Movable, scientifically engineered storage accommodations would be preferred over built-in units. Incidentally, 73:1 per cent of those answering the questionnaire plan to build or buy a house.

TEACHERS NEEDED

Increased enrollments at the schools of architecture may require additional teachers in the near future. Those qualified and interested in teaching positions should send their personnel records to Professor Paul Weigel, Secretary, Association of Collegiate Schools of Architecture, Department of Architecture, Kansas State College, Manhattan, Kansas.

FELLOWSHIPS

The Graduate School of Design of Harvard University will offer two or three fellowships for advanced study in city or regional planning for the academic year 1946–47. The stipends will not exceed $1,500 each. Applications should be made prior to April 15 to the Chairman of the Department of Regional Planning, Robinson Hall, Harvard University, Cambridge 38, Mass.

The applicant should give a thorough account of his training and experience and should outline his program of study or research which he would undertake were he to be awarded one of the fellowships. Fellowships are ordinarily open to students who are candidates for the Master's degree or for the Doctorate. The requirements for entrance as candidates for these degrees are stated in the pamphlet of the Department of Regional Planning which may be obtained by writing the Secretary of the Department at Robinson Hall.

NEW AWARDS

Establishment of a group of awards for Latin-American university civil engineering graduates has been announced by Col. William N. Carey, secretary and executive officer of the American Society of Civil Engineers.

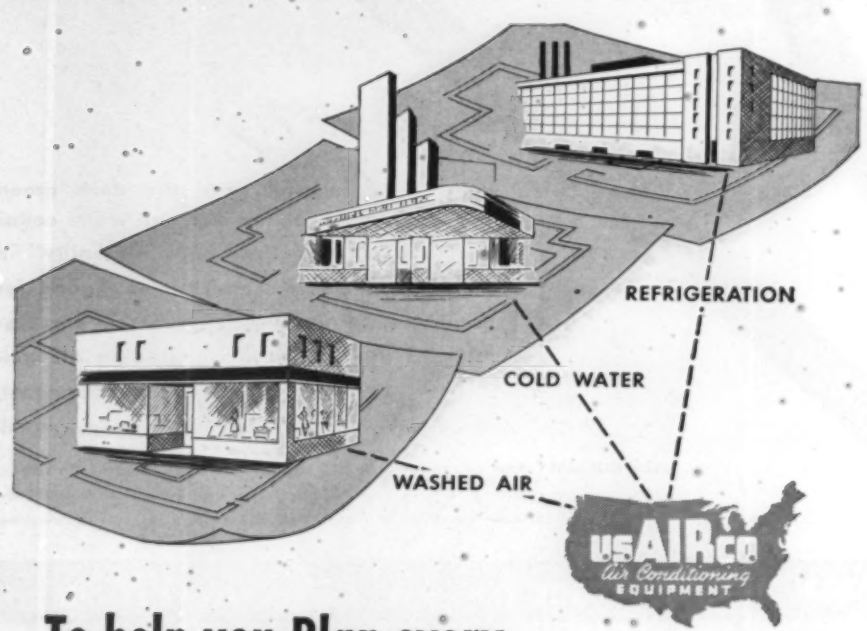
A fund of $1,600 in cash has been turned over to the Society by L. F. Harza, Chicago consulting engineer, for use in providing entrance fees for junior membership in the Society, first year's dues and a Society badge for selected, qualified engineer graduates. No more than eight such memberships will be awarded in any one year, nor more than two to any country in one year.

Selection of candidates is to be made for outstanding scholarship, personality and interest in Pan-American affairs.

REAL ESTATE COURSE

As a part of the extension course of Rutgers University and under the supervision of the Society of Industrial Realtors, the first meeting for a college course in Industrial Real Estate was held at 730 Broadway, Newark, N. J. Speakers of the evening were Eugene Hill, national

(*Continued on page 140*)



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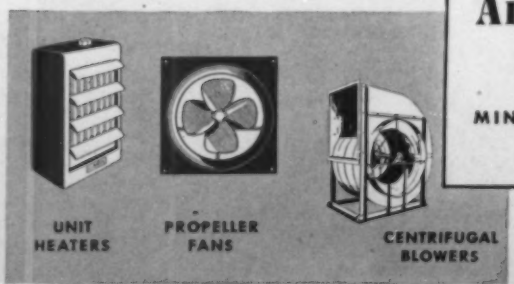

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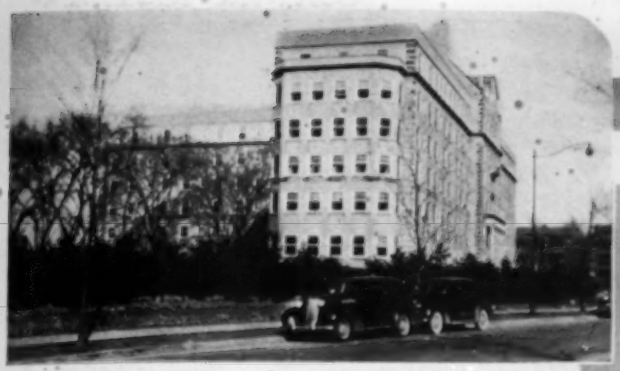

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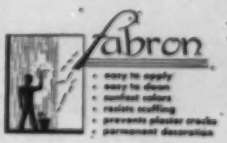

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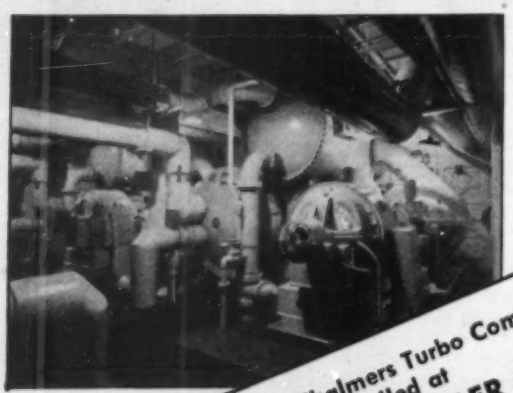
The fact that we have just recently placed an order with you for the third compressor of this type is probably the most conclusive evidence of the service that these machines have given us.

Yours very truly

W. O. Bode
General Superintendent



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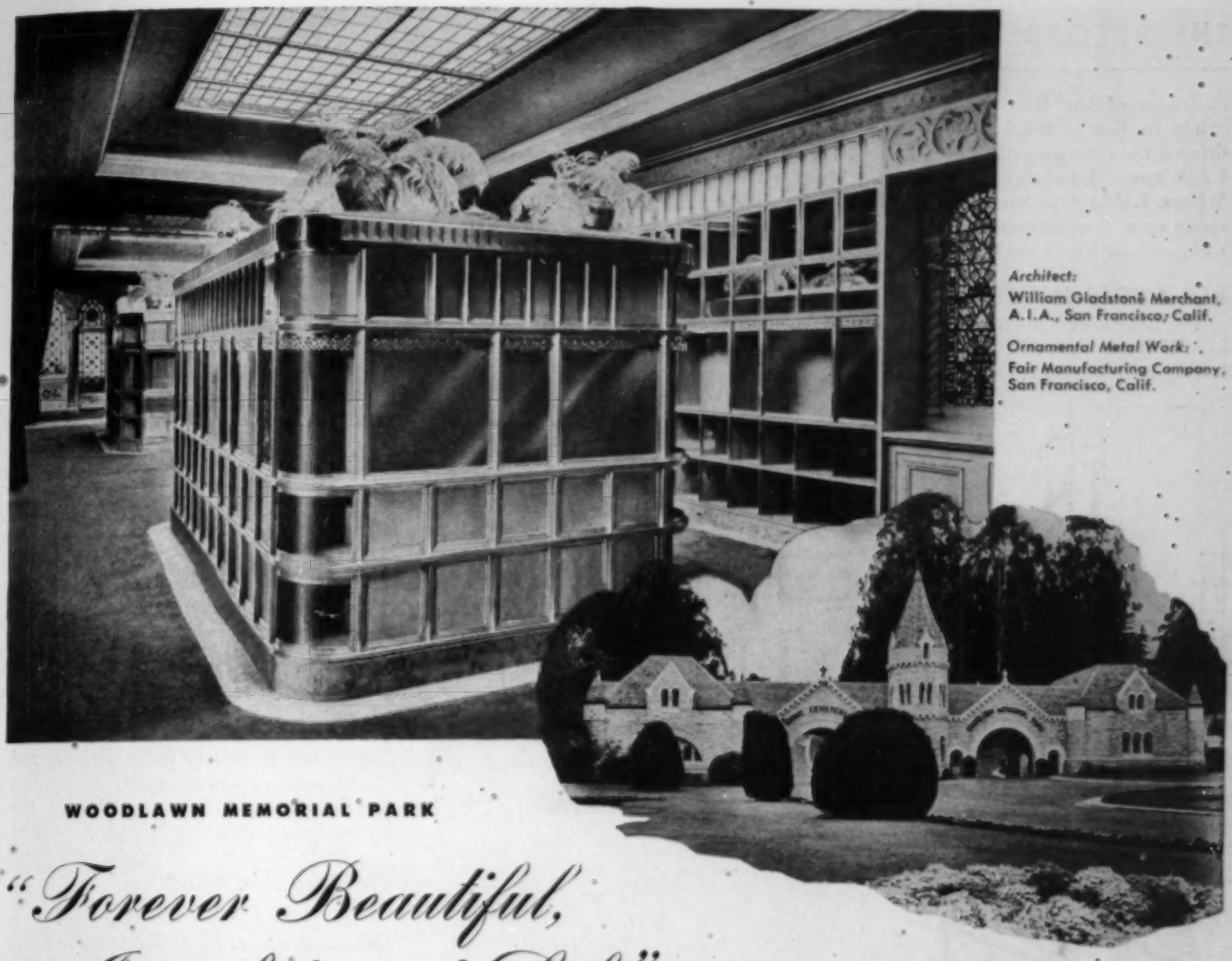

Architect:
William Gladstone Merchant, A. I. A., San Francisco, Calif.

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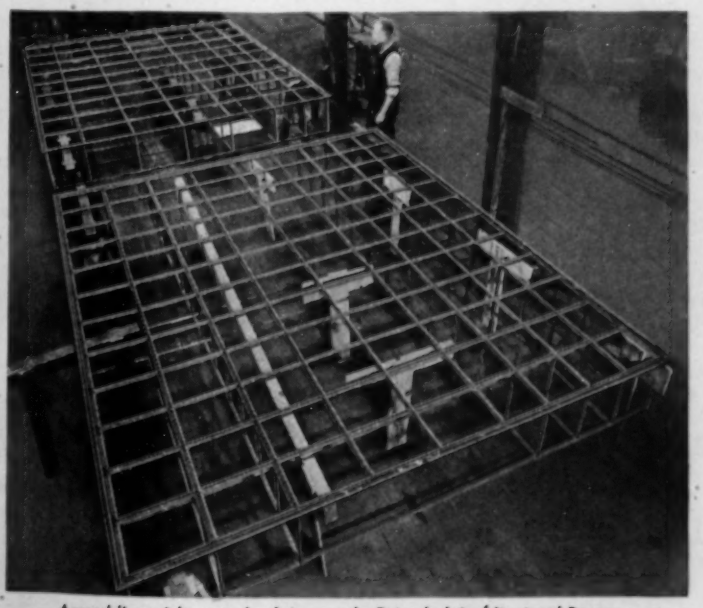

Assembling niche panels of Anaconda Extruded Architectural Bronze for a columbarium in Oakland, Calif.

A GREAT TRIBUTE to the dignity, beauty and enduring qualities of bronze is its extensive use in the Mausoleum-Columbarium at Woodlawn Memorial Park, Colma, California

In keeping with the air of "lasting beauty, harmony and color" so well attained, the decoration work in the mausoleum wings, and the columbarium compartments were all executed in architectural bronze.

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chairman of the Research and Plant Study Section of the Society, who addressed the class on plant selection, and E. Warren Bowden, vice president, Walter Kidde Constructors Inc., who spoke on new construction. The course will continue for 15 weeks.

RED CROSS LUMBER

The American Red Cross reports that in 1945 it was active in 270 disasters affecting 43 states and Alaska. The amount of material required to be furnished through lumber yards for the repair of disaster-caused damage included 36,900,000 board feet of lumber, 151,000 squares wood shingles, and 150,000 sq. ft. of plywood. Approximately 16,195 pieces of residential property were destroyed and 137,439 were damaged.

With the supply of building materials remaining critically short, the Red Cross through the cooperation of the CPA gets authorization on an AAA rating for the absolutely essential materials required to repair dwellings and other residential property damaged in a disaster. It maintains on its field disaster staff trained building advisors who survey the damage to buildings and extend the priority rating to lumber dealers in the area affected by the disaster.

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SCHOOL CONTRACT

Warren S. Holmes Co., Architects, of Lansing, Mich., have been elected architects for the school building program of Hammond, Ind. The contract provides for housing in new or remodeled buildings approximately 50 per cent of the primary and secondary school pupils of the city in the next five years. It includes four new elementary and two new elementary-junior high schools, two junior high and one high school additions.

NEW EXPOSITION

The Mid-American Exposition, a display of postwar commercial and home products, is scheduled for Cleveland, Ohio, from May 23 through June 2.

Sponsored by business, industrial, labor and civic groups of Cleveland, the show is intended to focus national and international attention on the industries, resources and facilities of the Cleveland region.

MEDAL AWARDED

The 1945 Lamme Medal of the American Institute of Electrical Engineers has been awarded to David C. Prince, vice president, General Engineering and Consulting Laboratory, General Electric Co., "for his distinguished work in the development of high voltage switching equipment and electronic converters."

POSTPONEMENT

Because of the uncertainty of products and delivery schedules, the Products of Tomorrow Exposition scheduled to open at the Chicago Coliseum April 27th has been indefinitely postponed.

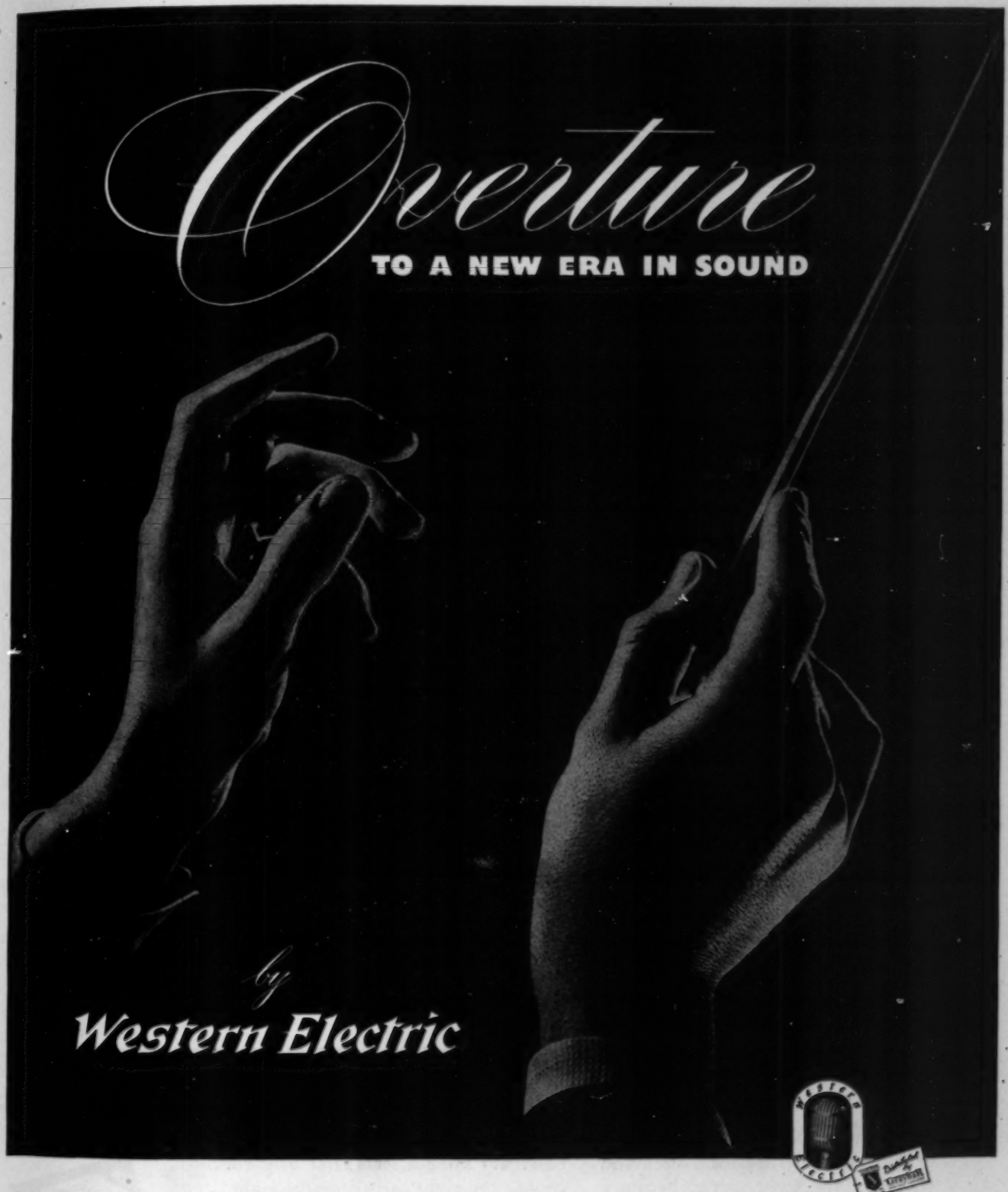
EXHIBITION IS OFF

The "Tomorrow's Homes" exhibition scheduled for the spring of 1946 at the Newark, N. J., Museum has been cancelled because many of the prospective exhibitors were unable to participate on account of the slowness of the reconversion process.

PAMPHLET ISSUED

Chimneys and fireplaces are the subject of a new free circular issued by the Small Homes Council at the University of Illinois. It gives technical information on location and height of chimneys, types of flue linings and chimney tops, pipe connections, etc., and construction details for fireplaces.

(*Continued on page 144*)



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Revolutionary advances born of wartime research have resulted in a new Western Electric loudspeaker that reproduces speech and music with unsurpassed fidelity.

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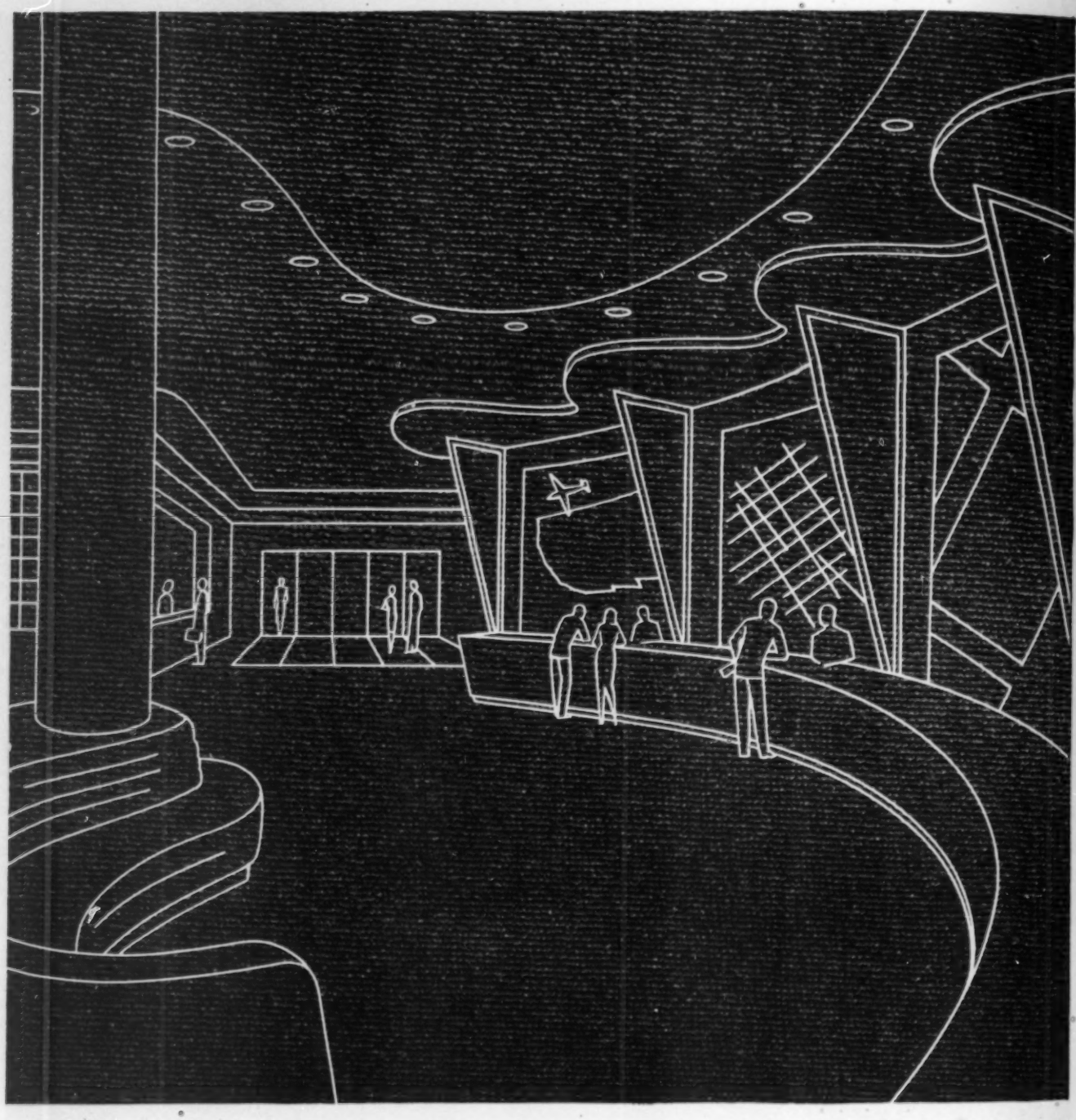

Plans for the future call for CARPETS BY BIGELOW

If your future plans call for the design or redesign of interiors, then the choice of the right carpet becomes a lively issue.

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Offices in Principal Cities

OFFICE NOTES

Offices Opened, Reopened

Garrett Becker, Architect, has opened an office in Ridgefield, Conn.

Lt. Col. H. C. Belsher, Corps of Engineers, is on terminal leave from the Service and has opened his office for the practice of architecture at 1529 Maryland Ave., Houston 6, Texas.

Daniel C. Bryant, A.I.A., has reopened his architectural office at 509½ Water St., Port Huron, Mich.

Maj. Richard C. Lennox and Maj. Joseph C. Matthews, recently returned from service, have reestablished their architectural and engineering organization in Indianapolis under the firm name of R. C. Lennox & J. C. Matthews, Architects-Engineers. Address, 424 Postal Station Bldg., 352 S. Illinois St., Indianapolis 4, Ind.

Maxwell Levinson is now practicing as consulting architect and industrial designer, with offices at 210 Fifth Ave., New York 10, N. Y.

A. C. Lyras, Architect, has opened offices at 28 W. 44th St., New York, N. Y.

John W. Maloney, A.I.A., has opened an office at 654 Central Bldg., Seattle 4, Wash.

Richard S. McCaffery, Jr., during the war a member of the U. S. Mission for Economic Affairs in London, has resumed his architectural practice with offices at 139 E. 57th St., New York City, and 76 Mamaroneck Ave., White Plains, N. Y.

Bryan W. Nolen, A.I.A., announces his return from military service and the reopening of his office in the Key Bldg., Oklahoma City, Okla.

Rudolph L. Novak, Architect, has reopened his offices at 713 Main Ave., Clifton, N. J.

Alfred Browning Parker, A.I.A., has opened offices in Miami, Fla.

Daniel Perry, A.I.A., has reopened his office at 1213 Main St., Port Jefferson, N. Y.

Archie Protopapas, A.I.A., has resumed his architectural practice in new offices at 441 Lexington Ave., New York 17, N. Y.

Albert F. Roller, Architect, Crocker First Natl. Bank Bldg., San Francisco, announces the opening of Los Angeles offices in the Subway Terminal Bldg., 417 S. Hill St., Los Angeles, Calif.

Darcey T. Tatum, Jr., Architect, has opened an office in the Frank Nelson Bldg., Birmingham, Ala.

Anthony Thormin, A.I.A., has resumed his architectural practice with offices at 672 S. Lafayette Park Pl., Los Angeles 5, Calif.

Joseph Watterson, A.I.A., has resumed the practice of architecture with offices in the Dade Bros. Bldg., Old Country Rd., Mineola, L. I., N. Y.

Harold G. Wilson, Architect, has opened an office at 125 Coulter Ave., Ardmore, Penn.

Nicholas S. Zajack, A.I.A., has opened offices in the Hippodrome Bldg., 720 Euclid Ave., Cleveland 14, Ohio.

New Addresses

The following new addresses have been announced:

Clay Sewer Pipe Assn., Inc., Suite 2606, 26 Court St., Borough Hall District, Brooklyn 2, N. Y.

S. J. Glaberson, Architect, 14 E. 39th St., New York, N. Y.

Hugh Keyes, Architect, 309 Wabeek Bldg., Birmingham, Mich.

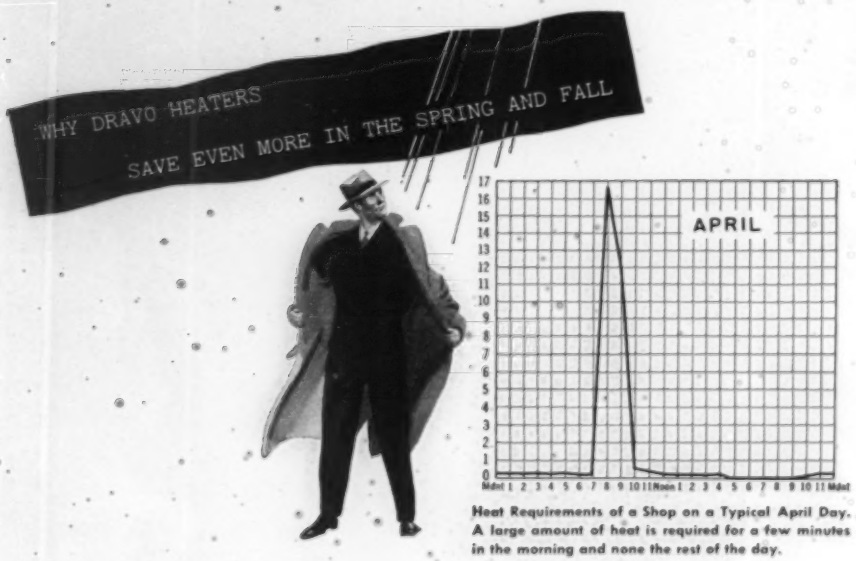
George Nemeny, Architect, 14 E. 39th St., New York, N. Y.

Reinhard & Hofmeister, 145 E. 32nd St., New York 16, N. Y.

New Firms

Benedict M. Ade and Conway L. Todd have announced the formation of a partnership for the general practice of architecture under the firm name of Ade and

(*Continued on page 148*)

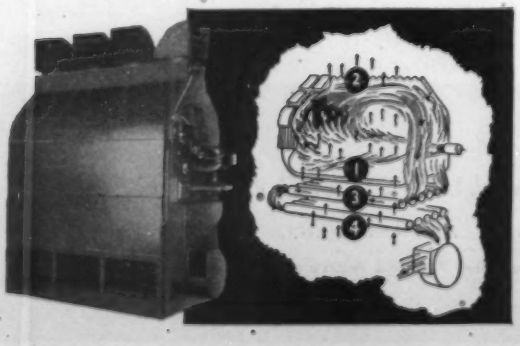


Heat Requirements of a Shop on a Typical April Day. A large amount of heat is required for a few minutes in the morning and none the rest of the day.

Because each heater is a self-contained heat producing unit operating on a direct heat transfer through a single thickness of metal, these heaters can be started up and shut down within a few minutes time. That means there is no standby loss in the Spring and Fall when heat requirements frequently exist for only an hour or so each day. The Dravo heater is so flexible in its operation it can be made to follow the temperature curve without standby loss.

There are many other reasons why these heaters are ideal for large scale space heating. They are shipped complete from the factory with the refractory lining in place, need only to be connected to the fuel line to be ready for operation. They are highly portable and can be moved from plant to plant and spot to spot to meet changing requirements. Efficiencies are high, running 80 to 85%. Maintenance is negligible. No specialized attendance is needed. For the full story of their design and efficiency ask for Bulletin 509-A. Address Dravo Corporation, Heater Department, 300 Penn Avenue, Pittsburgh 22, Pa.

DRAVO HEATING



DRAVO FOUR PASS combustion chamber design—Flame and gases of combustion flow internally four times across the path of the high velocity air stream being heated. Fins and deflectors on the outside of the chamber materially increase heat transfer. These features contribute to a high efficiency from the fuel consumed—more usable Btu's per barrel of oil or cubic foot of gas.

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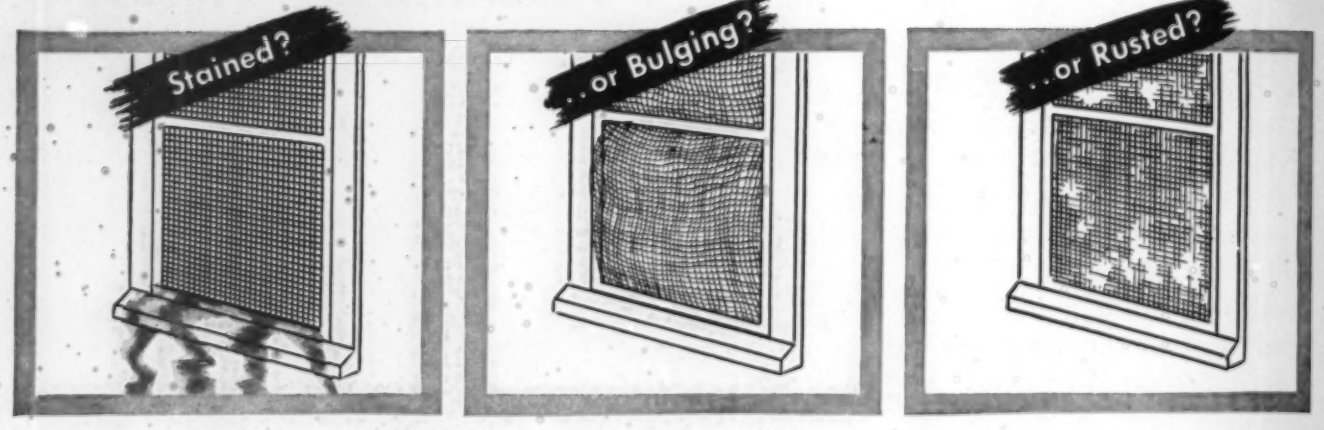

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Owners prefer Silbraz* Joints

for copper or brass pipe runs

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1. VIBRATION PROOF

—the physical characteristics and design of the Silbraz joint are such that the joint will withstand vibration *under load* better than even the pipe or the fitting.

2. FIRE

—the silver brazing alloy used in Silbraz fittings has a melting point of 1300° F. In a fire, the pipe will fail—under load—long before the joints and fittings are affected.

3. CORROSION RESISTANT

—in conveying many commercial gases or liquids, Silbraz joints have been found to stand up as well as the pipe itself and frequently better. This is due to their high percentage of copper and silver.

4. "ONE-PIECE" LINE

—the brazing alloy incorporated in each Silbraz port, flows out when heated with the oxyacetylene flame, and makes a tight, leakproof joint—stronger than the pipe itself.

5. ECONOMICAL

—Silbraz joints require neither maintenance nor repairs, and are good for a service span equal to or greater than the life of the pipe.

Silbraz fittings and valves are produced by leading manufacturers. You can specify them with assurance for plumbing and heating lines, fuel, gas and process lines—in better-class homes, apartment houses, public, commercial and mercantile buildings—wherever you want copper or brass pipe runs that can "stand-up" under all conditions and give your clients complete satisfaction.

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HE CAN INSTALL SILBRAZ JOINTS
Better plumbing and heating contractors already have the special Airco oxyacetylene equipment for making Silbraz joints and the "know how" to do the job. You can rely on them to install "one-piece" Silbraz copper or brass piping systems.

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Represented Internationally by Airco Export Corporation.

Todd, Architects, with offices in the Sibley Tower Bldg., 25 North St., Rochester 4, N. Y.

C. Dale Badgeley and Charles Akers Bradbury have formed a partnership for the practice of architecture under the name of Badgeley & Bradbury, with offices at 204 E. 39th St., New York 16.

Daniel H. Bodin, A.I.A., announces a partnership with Willard N. Lamberson, A.I.A., who has been associated with him for 10 years. The new firm, of which Clarence A. Smith II, A.I.A., is an associate member, will practice architecture under the name of Bodin & Lamberson, Architects, with offices at 44½ Marietta St., Atlanta, Ga.

John Justin Carr and Phelps Cunningham have formed a partnership for the practice of architecture under the firm name of Carr and Cunningham, Architects, with offices at 1421 Schofield Bldg., 9th and Euclid, Cleveland 15, Ohio.

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UNSEEN GUARDIAN
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BUILDING PAPER
GUARDIAN of the walls of a house . . . protector against moisture, dust, dirt and driving winds . . . good building paper is as important to house construction as air brakes to a speeding locomotive. Just because this "guardian" can't be seen doesn't mean it is not one of the most important materials in home construction. It's too important a job to entrust to any but the best building paper . . . Sisalkraft* . . . especially when the cost is so little more.
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ONLY 16¢ MORE PER YEAR FOR THE LIFE OF THE HOME
*Sisalkraft Building Paper . . . applied over sheathing on a $7,000 house, costs only a few dollars more than ordinary building paper . . . only 16¢ a year more for the estimated life of a house.

John Walter Cross and his son, H. Page Cross, have announced the opening of the firm of Cross & Son, Architects, with offices at 730 Fifth Ave., New York 19, N. Y.

Earle S. Draper, who for five years served as deputy commissioner of the FHA, has accepted the presidency of Housing Trends Inc., a new firm providing an architectural and engineering service for builders and lending institutions in the small house field. Associated with Mr. Draper are Kenneth Duncan, formerly treasurer and general manager of the Harmon National Realty Organization, and Randolph Evans and W. Otis Chapman, consulting architects.

Mildred Budd Mooney and M. Munn Pattison, consulting architect, announce the opening of the Mooney Miniatures studio for the constructing of accurate architectural scale models. Address, Box 87, Rahway, N. J.

Robert H. Orr, F.A.I.A., Vincent Palmer, A.I.A., Robert R. Inslee, A.I.A., and Robert W. Huber announce the opening of the architectural offices of the firm of Orr, Palmer, Inslee & Huber at 3006 Wilshire Blvd., Los Angeles, Calif.

Wm. L. Steele, F.A.I.A., J. D. Sandham, A.I.A., and Wm. L. Steele, Jr., have announced the formation of the firm of Steele, Sandham & Steele, Architects, with offices in the Electric Bldg., Omaha, Neb. B. P. Daxon, engineer, Kenneth B. Clark and Lawrence A. Enersen are associates in the new firm.

Rollin Wolf and Willard S. Hahn announce the forming of a partnership under the firm name of Wolf & Hahn, Registered Architects, with offices at 459 Hamilton St., Allentown, Penn.

Firm Changes

Norman Bel Geddes & Co., New York, announces the retaining of Joseph F. Kelley as marine consultant.

R. W. Hebard & Co., Inc., Engineers, Consultants and Constructors, 30 Broad St., New York, announces the election of Donald H. McNeal as vice president and director.

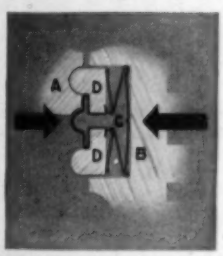
H. W. Lochner & Co., Engineers and Architects, 160 N. LaSalle St., Chicago 1, Ill., announces the association of Charles Klopp, architect, and the expansion of the practice of the firm to include complete architectural services.

Foster D. Snell, Inc., Consulting Chemists and Engineers, 305 Washington St., Brooklyn 1, N. Y., announces that Robert Schmeidler has joined the staff as business manager.

William Wilson Wurster and Theodore C. Bernardi announce the addition of Donn Emmons as a member of the firm. Mr. Emmons, recently in the United States Naval Reserve, has been associated with the office since 1938. The new firm name is to be Wurster, Bernardi and Emmons, Architects. Address, 402 Jackson St., San Francisco 11, Calif.

Announcing . . . an entirely NEW kind of window

CURTIS SELF-FITTING SILENTITE!

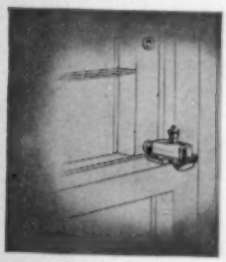


SELF-FITTING—
For Greater Weather-Tightness

The new Silentite has "floating" weather-stripping. Illustration shows wood sliding bars which are seated on full-length bronze weather-strips and press tightly against moving parts of window. 20% less air infiltration than old Silentite.

SELF-FITTING—
For Easier Operation

The "floating" weather-stripping forms a wood-to-wood contact with the sash. The new Silentite is easy to open and close at the outset, and continues to operate smoothly with use. And remember, Silentite has no weights, pulleys, or cords to get out of order.



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For Locking Safety

The new Silentite locks in a closed or partly open position—new safety from intruders. New-style sash lock furnished with each unit—and you can get a new combination storm sash and screen, too!

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For Simple Installation

The sash is installed with minimum effort—greatly lowering Silentite installation cost. Top and bottom sash may be removed from the inside by removal of one inside stop only.

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Radiant heating in any home, large or small, is the ideal heat for solid comfort and the BASE-RAY* Radiant Baseboard offers radiant heating at its best . . . and simplest . . . adaptable to rooms of any size. Base-Ray is 7" high and 1¾" thick . . . assemblies start at a minimum of 24" and can be furnished in multiples of 12" . . . and can be shipped in lengths up to 8'. Additional sections may easily be added on the job to suit any requirement. BASE-RAY is simple to install . . . any heating contractor can do a good job.

To give your plans the truly modern touch, incorporate BASE-RAY. You achieve smartness, beauty, comfort and heating efficiency in one stroke. And this is important: Installation in new or old homes requires *no* structural changes, and specifications are simple. BASE-RAY cast-iron baseboards are installed on outside walls in place of the regular wood baseboard. Painted to match, they are practically indistinguishable from balance of trim. For any type hot water, 2-pipe steam or vapor system.

A well designed house, large or small, deserves BASE-RAY *radiant* heating. Get all the facts. Mail the coupon today.

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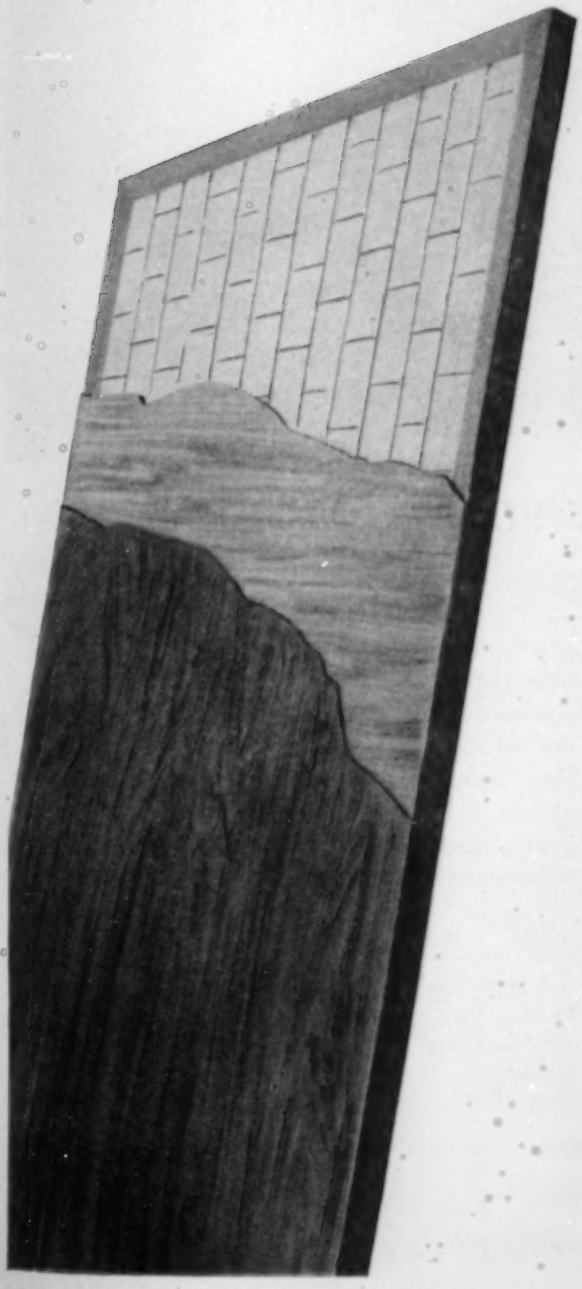
doors in Michigan Maple

A combination of Beauty and Toughness



HARD Michigan Maple faces over RODDISCRAFT cores and crossbanding welded into a solid, waterproof unit, under heat and pressure, by the RODDISCRAFT process, creates a door that will stand up under heavy traffic and harsh treatment.

In contrast to the delicate color and warmth of Michigan Maple, is its ingrained hardness—resistance to chipping and scuffing—which makes it an ideal wood for facing doors used in public buildings.

Roddis offers the pick of Michigan Maple from its 30,000-acre northern Michigan tract—selected and cut by Roddis woodsmen—matched and finished by Roddis craftsmen.

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DALLAS, TEXAS, 2615 Latimer St.
KANSAS CITY 8, MISSOURI, 2729 Southwest Blvd.
LOUISVILLE 10, KENTUCKY, 1201-5 S. 15th St.
LONG ISLAND CITY, N. Y., Review and Greenpoint Ave.
MARSHFIELD, WISCONSIN
MILWAUKEE 8, WIS., 4601 W. State St.
NEW YORK CITY 18, NEW YORK, 515 W. 36th St.
SAN ANTONIO, TEXAS, 727 N. Cherry St.

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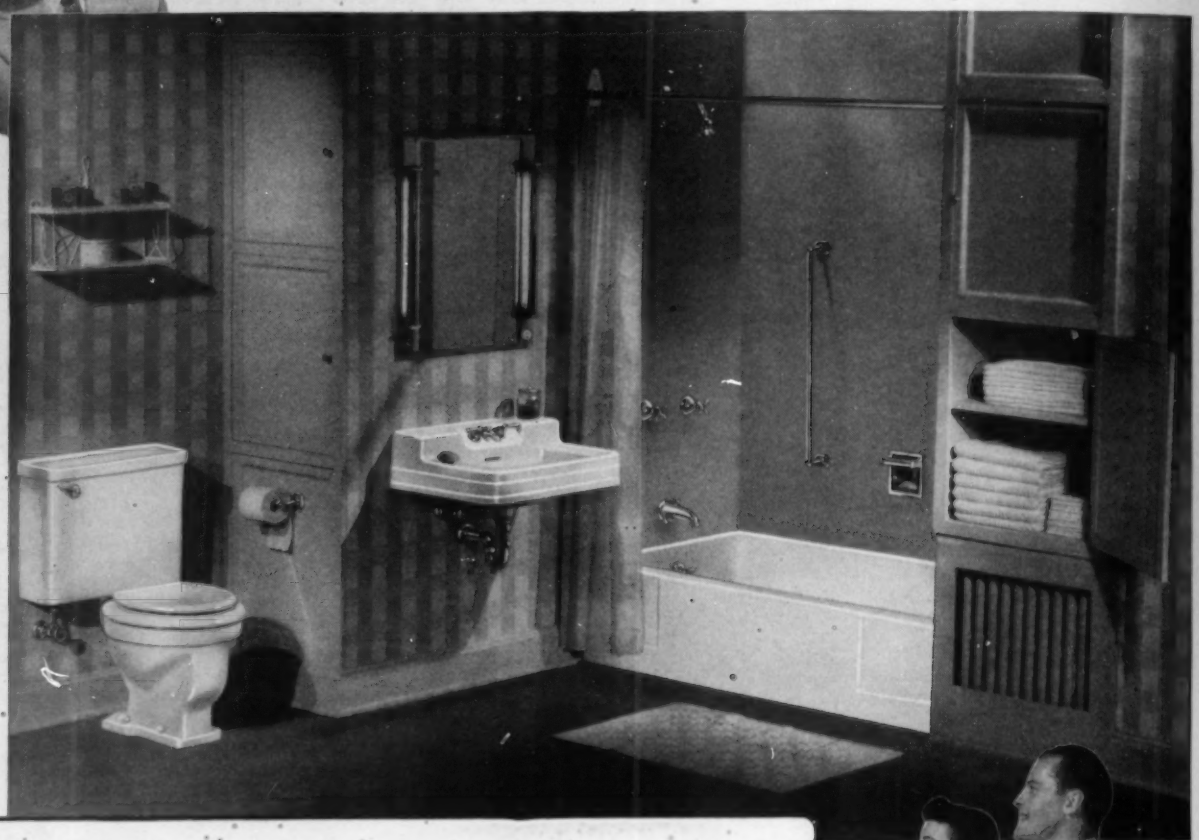

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- The whole line has been freshly styled with fixtures grouped and matched to assure greater harmony.
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- The breadth of the line permits flexibility in your planning—fixtures designed to suit every taste.
- Throughout, the line is high in quality—backed by Crane reputation for producing the finest in plumbing fixtures.
- And above all, Crane is in production on equipment specifically designed and priced to suit today's building needs.

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HERE's a planning tool you're sure to find useful in the building and renovating days ahead. It's an A.I.A. file containing full-size details of the varied mouldings, sashes, sills, jambs, heads, bars, bands, transom bars, and awning bars in the Pittco De Luxe and Pittco Premier Store Front Metal lines. These drawings will bring your files up to date. They show how the pieces should be installed with various types of building materials and indicate some of the many attractive combinations in which they can be assembled. You can easily trace the shapes onto your own drawings.

Inquiries from architects and clients indicate a great interest in both lines of Pittco Metal, not only for use in store fronts, but also in store interiors, hotel and theater lobbies and corridors, laboratories—wherever smart-looking metal trim is desired.

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"PITTSBURGH" stands for Quality Glass and Paint

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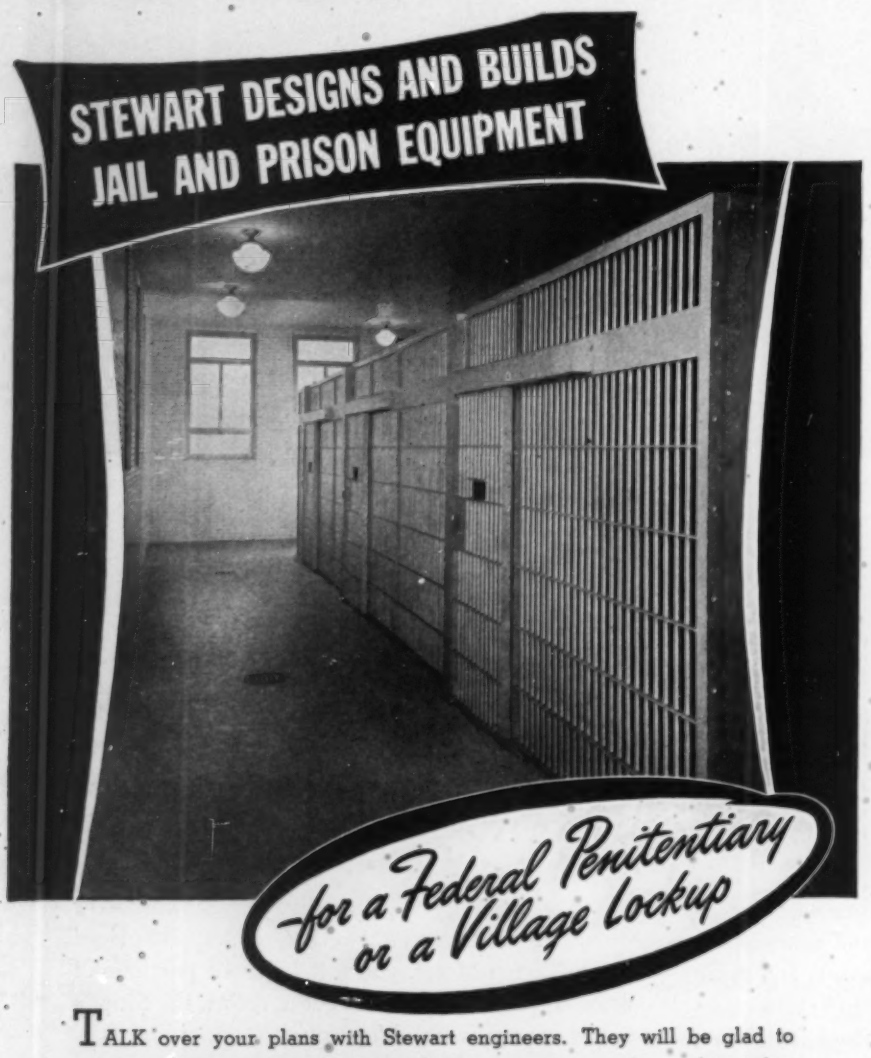
 (*Continued from page 20*)

regarded as somewhat flexible, for he recognized the fact that in certain high-cost areas it would be impossible to construct an adequate house for that amount. It has not yet been decided whether there will be separate priority ratings for materials used in the $6,000 and $10,000 house groups.

In order to have effective control, he felt that price ceilings must be set on the sale of both new and old houses to prevent speculation and spiraling inflation. However, on old houses, there would be no attempt to predetermine a ceiling, and the first freely negotiated sale after the enactment of the plan would establish selling price thereafter.

Non-Veterans May Buy

Not all new houses would be allocated to veterans, he stated, for in cases where definite hardship could be demonstrated by others, they also would be given an opportunity to buy.



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"Designers and Builders of Jail and Prison Equipment Since 1886"

Work May Continue

Furthermore, the Expediter said that houses already under construction in higher price ranges would be permitted to go forward, materials being allotted for this purpose probably with a lower priority, while other houses under construction, whose cost would come within the range covered by the plan, would go forward on the same basis as new projects. In cases where houses falling within the price range covered by the plan were not being erected for occupancy by a specific individual, he felt that preference should be given to veterans for their purchase.

Some Non-Residential Construction Allowed

It would be impossible, Mr. Wyatt declared, to devote all construction effort exclusively to home building, for there would be plants whose construction would be essential to the securing of an adequate supply of other materials, as well as schools, hospitals and other services for newly-established or expanded communities. Still, he emphasized that any construction that could be deferred without imposing undue hardship must wait until housing needs had been alleviated.

Labor Will Cooperate

Just as he expects manufacturers and builders to produce, he expects labor to produce, and Mr. Wyatt said that labor unions had promised their support. Further, to encourage veterans and others into apprentice training, the unions have agreed to raise the age limit for such training; to allow veterans credit toward completion of apprenticeship for periods in the service during which they were engaged in similar trades; and to raise the level of pay, with increasing rates as skill improves. In addition, he stated that, as an added inducement, the Veterans' Administration would regard an apprentice period as education to which the G. I. Bill of Rights would properly apply, and that, hence, trainees would be entitled to allowances while also receiving apprentice pay. Finally, he said that in each community programs would be organized to set up committees composed of all groups interested, in order to act on local labor problems as they arose.

Wyatt's Powers Broad

As Expediter, Mr. Wyatt has the authority to direct other government agencies, the OPA, CPA, and FHA, and to coordinate their operations. He hopes to get specialists in all fields of production to assist him in correcting any difficulties encountered, and will also actively promote a study of building code revisions throughout the country to per-

(*Continued on page 156*)

Different Toilet Room Environments

are obtainable with

Sanymetal "PORCENA"

(Porcelain on Steel)

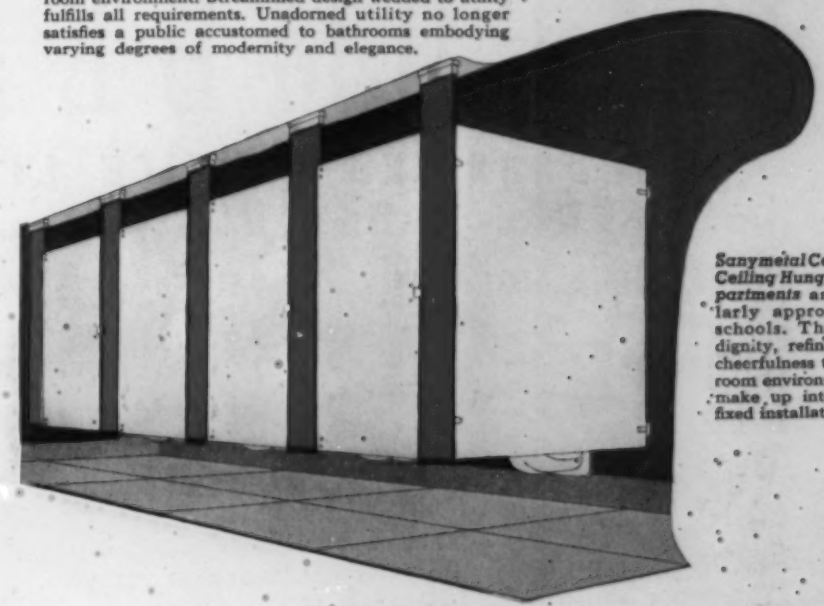
TOILET COMPARTMENTS

GREAT STRIDES have been achieved in the development of toilet room environments in keeping with other environmental treatments of a building. Toilet compartments usually dominate a toilet room, influencing the toilet room environment. Sanymetal "Porcena" (porcelain on steel) Toilet Compartments elevate the toilet room environment into harmony with other environments of a building. These toilet compartments are fabricated of the ageless and fadeless material, porcelain on steel, which makes a glass-hard stainless material that always looks new, does not absorb odors, is moisture and rust proof and resists the corroding nature of ordinary acids. The glistening porcelain finish discourages defacement and can be wiped clean as easily as any glass smooth surface.

Sanymetal "Porcena" Toilet Compartments embody the results of over 32 years of specialized skill and experience in making over 70,000 toilet compartment installations. Ask the Sanymetal Representative in your vicinity (see "Partitions" in your phone book for local representative) for further information about planning suitable toilet room environments for modern school, industrial, and institutional types of buildings. Refer to Sanymetal Catalog 19B-5 in Sweet's Architectural File for 1945, or write for file copy of Catalog 83.

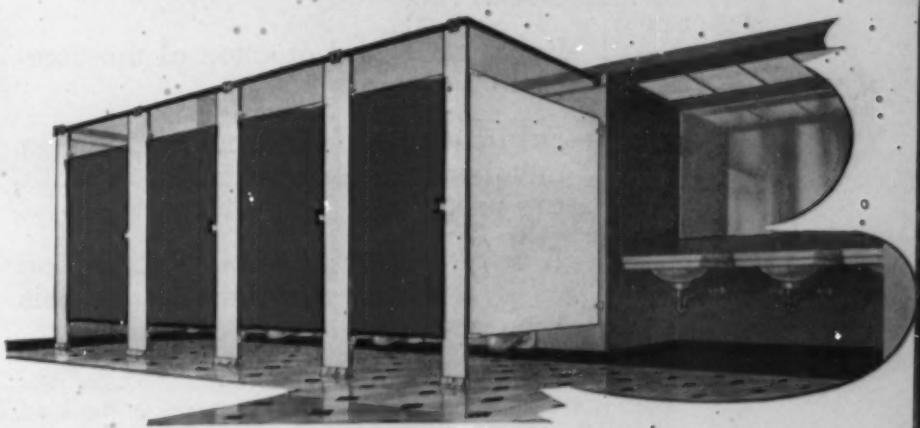
THE SANYMETAL PRODUCTS COMPANY, INC.
1689 URBANA ROAD • CLEVELAND 12, OHIO

Sanymetal Porcena Normandie Type Toilet Compartments impart a moderately streamlined effect to a toilet room environment. Streamlined design wedded to utility fulfills all requirements. Unadorned utility no longer satisfies a public accustomed to bathrooms embodying varying degrees of modernity and elegance.



Sanymetal Century Type Ceiling Hung Toilet Compartments are particularly appropriate for schools. They impart dignity, refinement, and cheerfulness to the toilet room environment. They make up into a rigidly fixed installation.

Sanymetal Porcena Academy Type Toilet Compartments provide a certain distinctiveness. This type of partition is the only one in which all the dignity and distinctiveness of standard flush type construction, unmarred by posts, is appropriately combined with the headrail.



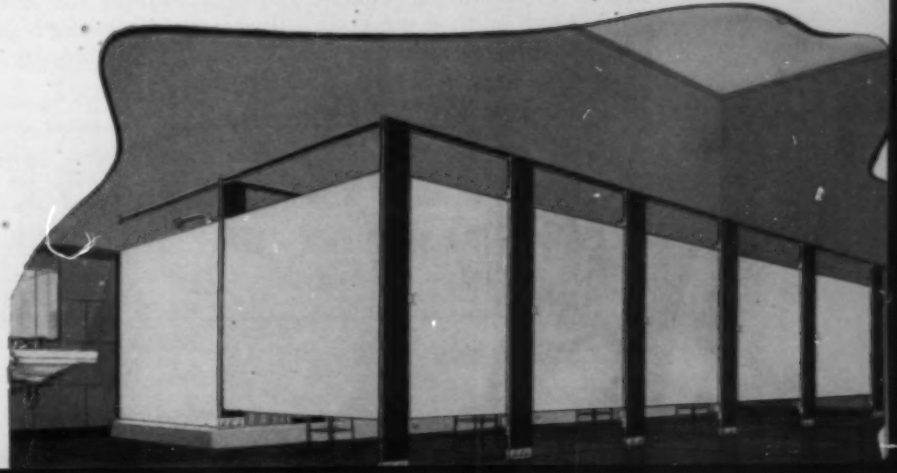
Sanymetal*

"PORCENA"

(Porcelain on Steel) TOILET COMPARTMENTS

possess the natural structural strength of steel, not one sheet, but two 16-gauge sheets, securely bonded on opposite sides of dense insulating core, strengthened by porcelain enamel (four layers on each sheet) which provides a non-porous, flint-hard, glass-smooth surface that is positively impervious to odors, acids and moisture.

Sanymetal Porcena Academy Type Shower Stall and Dressing Room Compartments provide the utmost in sanitation for tourist camps, gymnasiums, clubs, Y. M. C. A.'s, etc.



Sanymetal*

*Trade Mark Reg. U. S. Pat. Off.

TOILET COMPARTMENTS, SHOWER STALLS AND DRESSING ROOMS

 (*Continued from page 154*)

mit taking maximum advantage of technological improvements and new materials.

N. A. H. B. States Policy

The Association adopted a statement of policy approving the goal of achieving maximum production of housing for veterans, and promising cooperation to attain that aim. However, it was emphasized that support of the veterans' program must in no way be construed as an endorsement of the Wagner-Ellender-Taft Bill. A further reservation was made, in that it was felt that no guarantee of markets to producers of low-cost houses was required, and that production of prefabricated houses and parts should be confined to those manufacturers who give acceptable evidence of ready marketability. The association recommended that price requirements be flexibly administered to allow maximum volume construction everywhere, and approved reasonable modifications of building codes to permit economies compatible with sound construction. In addition, the need for a determination of selling price by FHA, flexible enough so that veterans would not be forced into makeshift housing, was stressed. Further price controls were considered unnecessary. The Association urged that community determination of need be the basis of the program, and that in its execution greatest possible local community participation be obtained.

Forum Tackles Land Use

1. *Smaller Plot Size Result of Wyatt Plan.* The forum on Land Planning developed the fact that, in spite of the tendency in home design toward a one-story, ranch-type house with great emphasis on outdoor living, higher building costs now prevailing will limit the extension of this development. If the Wyatt plan favoring low-cost housing becomes effective, plans will have to be compact, and the two-story house will continue to be the predominant type.

2. *Reducing Land Cost by Increasing Block Length.* It was felt that in new developments land costs might be kept low by the reduction of the ratio of street area to total ground area through the use of block lengths up to 1,500 ft. In such cases it would still be possible to allot sufficient ground space for the construction of a less closely integrated house. Naturally, it was emphasized that where such long blocks were used the flow lines of the streets must be with the traffic toward whatever are the most important areas, shopping centers, etc., in the vicinity. It was also stated that intermediate footpaths in these longer blocks would not be required, and that they had, in general, proved unsatisfactory.

3. *Parks and Playgrounds.* In discussing the establishment of parks and playgrounds as part of developments, it was pointed out that parks should not be so small as to be ineffectual in accomplishing the purpose for which intended, and that after they had been laid out and equipped, the most satisfactory way of arranging for their maintenance was to deed them to the local park commissions. The sizes recommended for the three general types of recreation areas were: about an acre for the total lot, three acres for the neighborhood playground, and 20 to 25 acres for the athletic field.

Adequate Service Urged

One probable effect of the Wyatt plan limiting cost of housing construction permitted will be that people who could readily afford considerably greater expenditures will be restricted to the construction of the minimum house compatible with their mode of living. In such houses maximum emphasis will be placed

(*Continued on page 158*)

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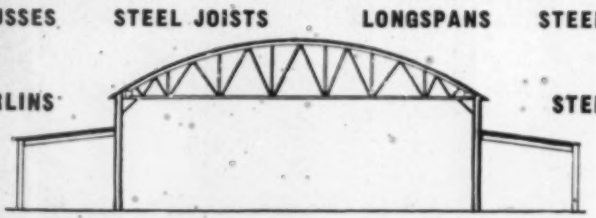

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3—A wealth of engineering information as a result of specialization in this type of construction.

Here is standardization in steel building products that does not limit either you nor the occupant in the kind of building that serves his needs best. Your contractor knows Macomber products. He will expend far less equipment in their erection. If you are interested in some helpful suggestions and further information drop us a line.

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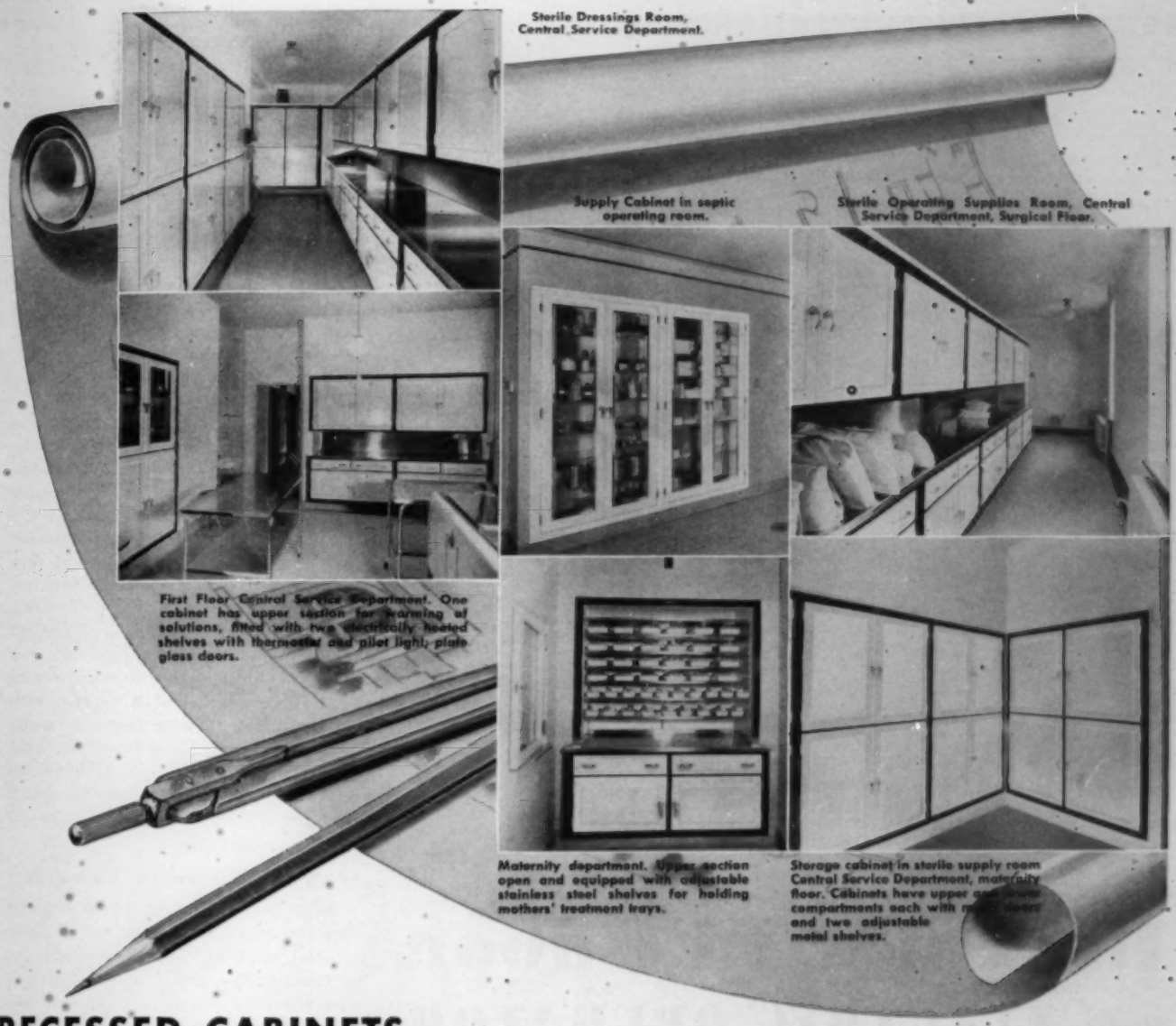

Sterile Dressings Room, Central Service Department.

Supply Cabinet in septic operating room.

Sterile Operating Supplies Room, Central Service Department, Surgical Floor.

First Floor Central Service Department. One cabinet has upper section for warming of solutions, fitted with two electrically heated shelves with thermostat and pilot light; plate glass doors.

Maternity department. Upper section open and equipped with adjustable stainless steel shelves for holding mothers' treatment trays.

Storage cabinet in sterile supply room Central Service Department, maternity floor. Cabinets have upper [illegible] compartments each with [illegible] and two adjustable metal shelves.

RECESSED CABINETS

Important factors in planning the modern hospital— Specify Scanlan-Morris

Typical of the trend in the planning of modern hospitals are these photographs of Scanlan-Morris recessed cabinets built into St. Nicholas Hospital, Sheboygan, and St. Alphonsus Hospital, Port Washington, Wis. In addition to the cabinets shown, other Scanlan-Morris cabinets in these hospitals are:

1. Recessed combination cabinet for storage and for warming of solutions and blankets — in main corridor of maternity department near Central Service Room and delivery rooms.
2. Recessed supply cabinets in unsterile work room, Central Service Department, surgical floor.
3. Recessed supply cabinet in surgical corridor.
4. Recessed cabinets in splint room, surgical floor — three equipped with swinging type harness hooks for splints and fracture equipment; others with metal shelves and plaster barrel compartments.
5. Recessed cabinets, counter type, in unsterile work room of Central Service Department—stainless steel counter tops.
6. Counter type cabinets for soiled utensils, equipped with double sink—in maternity department.

Scanlan-Morris recessed cabinets, each cabinet custom built from plans and specifications covering the individual requirements of the hospital, are installed in many leading hospitals.

The cabinet bodies are made of 20 gauge furniture steel. All corners are made with double lapped and sweated seams, insuring dust-proof construction. Frames are flat teel, electrically welded to insure maximum strength and rigidity. The cab nets may be finished in any color to harmonize with the color of walls and other equipment. Fittings are finished in nickel plate or chromium plate, as specified.

Years of designing and manufacturing experience and contact with surgeons, hospital superintendents, engineers and architects, qualify our Technical Sales Service Department to give valuable assistance and authentic guidance in hospital planning. Suggested layouts supplied without obligation.

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MANUFACTURERS OF MEDICAL APPARATUS, GASES AND SUPPLIES FOR THE PROFESSION, HOSPITALS AND RESEARCH LABORATORIES

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on convenience in the home erected, and the intent will be to expand the facilities by subsequent additions as soon as restrictions are removed. Water and electric lines of proper size to accommodate all possible future requirements add but little to the cost if provided initially; later replacement for lines which have been outgrown may be extremely difficult and excessively costly. Electrical manufacturers pointed out that, when loads outstrip the capacity of the wiring system, operating efficiency decreases, due to voltage loss. Manufacturers of plumbing supplies likewise urged that street and yard pipes of adequate size be provided, and stressed the fact that the effectiveness of the supply lines varies not only with the total number of fixtures served, but also with the length of the interior service lines. Even though no major addition may be contemplated, it would be advisable to consider possible future load caused by the addition of air conditioning equipment, automatic washing machines, extra flush valve toilets, so that these may be used efficiently without reducing to a trickle flow of water in other fixtures simultaneously used.

How Secure Materials?

At the meeting on providing materials Commodore John D. Small, Administrator of CPA, asserted that every possible effort must be made to find substitute materials for commodities that were scarce or unobtainable, and promised that the board would do its utmost to secure an expanded supply of materials where shortages existed, through priorities, higher prices and wage relief.

Raymond Foley, Commissioner of FHA, promised that credit would be liberalized, and that everything possible would be done to eliminate unnecessary costs and restrictive requirements.

Representatives of various industries expressed the belief that, although they had practically no stocks of finished materials presently on hand, they had adequate productive capacity to meet all requirements if various forces that had been operating adversely in recent months were to be removed. In various fields price adjustments were considered necessary, and Norton Long, Assistant to the Administrator of OPA, stated that where study indicated the desirability of such price adjustments speedy action would be taken to get relief.

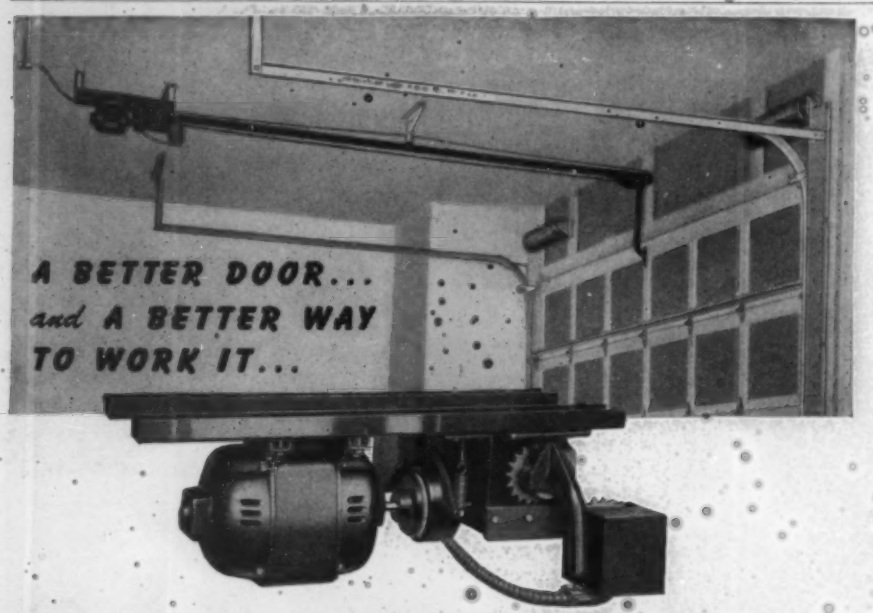
Whence Enough Labor?

At no time during the '20's was there a shortage of qualified labor, said William Guinan, Detroit builder, nor was the actual capacity of the building industry tested during that period, because construction was carried on to satisfy the market that existed, with no fixed production goal. While housing costs during the period from 1923 to 1929 increased as a result of inflated land costs and financing charges, actual building costs had steadily declined in the face of increasing wages. A stabilized labor force receiving a high rate of pay, he commented, was to the interest of the building industry, but a highly effective production was necessary, inasmuch as the annual income of less than $3,000, received by the majority of the families for whom housing was intended, was inferior to the rate of pay of the skilled mechanics producing the housing.

William Patterson, Director of the Apprentice Training Division of the Department of Labor, reported that machinery had been set in motion, with the cooperation of ten of the most important unions, for apprentice training programs.

An estimated 980,000 trained building workers would be required to accomplish the program envisaged by the Wyatt

(*Continued on page 160*)



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Garages, both industrial and residential, can use this combination to excellent advantage. The Barcol OVERdoor is a weathertight, easy-working overhead type door with distinctive features such as roller-crank closing action, self-latching bolts, twin-torsion tailored counterbalancing springs, and continuous vertical track brackets. Thousands of successful installations testify to its acceptance by satisfied and discriminating users all over the country. Barcol Electric Door Operators take the work out of opening and closing all types of doors. Their features include a centrifugal clutch, magnetic brake, accurate electric stop control, a simple manual release, and safety switching arrangements to suit all conditions. People now are looking forward to better business and better living—you can help them achieve their aims by recommending Barcol OVERdoors with Electric Operators.

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MODERN *Flexible* INTERIORS

CURTISS-WRIGHT CORP., BUFFALO PLANT — Albert Kahn, *Associated Architects and Engineers*

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KEEP THIS PLANT EFFICIENT

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All radiator covers, wall linings, and partition walls are Snead Type "SF".

Since 1849, the Snead symbol of lasting beauty, quality and progress in metal construction.

Snead Mobilwalls have expedited greatly the reconversion of many plants. With Mobilwalls change is simple, quick, and inexpensive. All parts are reusable without waste. No dirt, muss or paint. Get details. *Write, wire or phone.*

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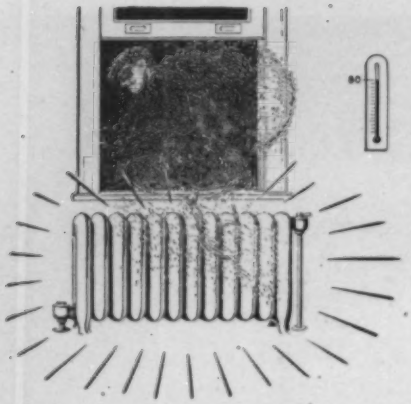

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Overheating? Open windows? Wasting costly fuel on mild days? Discovering higher fuel bills? . . . There's a thief in your heating system—Faulty Control!

Correct this needless expense and discomfort. Modernization with the Webster Moderator System and Automatic Controls will assure correct steam delivery to each radiator at all times. It is automatically "Controlled-by-the-Weather" to agree with exposure and outside weather conditions.

In the Webster Moderator System there are just four control elements: an Outdoor Thermostat, a Main Steam Control Valve, a Manual Variator and a Pressure Control Cabinet . . . assuring the highest expression of comfort and economy in modern steam heating.

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Seven out of ten large buildings in America (many less than ten years old) can get up to 33% more heat out of the fuel consumed! . . . If you are planning on a new building or on modernizing an existing building, write today for "Performance facts"—a book of case studies, *before* and *after* figures, on 268 Webster Steam Heating installations. Address Department AR-4.

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Fuel-Saving Starts With CONTROL

AUTOMATIC Webster Heating Systems

HOME BUILDERS

(Continued from page 158)

plan, warned Boris Shishkin, Secretary of the Housing Committee of A.F.L. Even with the return of veterans previously employed in construction, and the transfer of workers from shipbuilding, in his opinion, there would remain a deficiency of 65,000 to 75,000 men. To secure these additional workers, and to assist untrained returning veterans in preparing themselves for productive employment, the unions have promised full cooperation in the furthering of apprentice training, Mr. Shishkin said. They would put no difficulties in the way of the erection of prefabricated units. Furthermore, any attempt to limit individual output would be guarded against and stamped out wherever it occurred, and labor would bend every effort to secure maximum production.

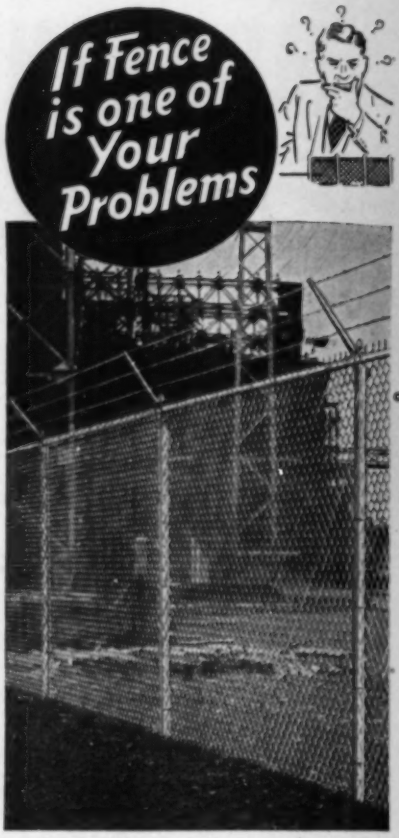
Techniques Take Floor

1. *Radiant Heating Trends, Methods and Equipment.* The trend in heating of all types of buildings is toward a continuous flow of heat at lower temperatures than have prevailed in the intermittent heating employed in the past, John Hayne of Minneapolis-Honeywell said at a technical panel discussion. Improved methods of installation and improved types of equipment, he reported, might reduce the cost of radiant heating to a level comparable with that of conventional heating. However, where outside temperatures drop to 0° F., floor panel heating (in slab construction) would require heating the floor to the uncomfortable level of 85° or higher. Bearing him out, Carl Boester commented that research at Purdue indicated the ceiling to be the best location for radiant heating, the walls next best. Experiments are now being conducted at Purdue in four house installations with radiant heating respectively in the ceiling, inside walls, exterior walls and floors to determine the relative costs and comfort.

2. *Extended Use of Steel In Home Building.* Much study is being given to the extension of the use of steel in housing, according to Carl Block of Carnegie Illinois Steel. He predicted that one of the first results of experiments would be mass production of lightweight steel doors and door trim which would eliminate warping and binding.

3. *Prefabricated Houses.* Harry J. Steidle, Manager of the Prefabricated Home Manufacturers Institute, reported that from 30 to 40 per cent of all war housing had been prefabricated. It was also brought out that there was not a single instance of a union dispute over the erection of a prefabricated house. He

(Continued on page 162)



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"ANCHOR PROTECTIVE FENCES" is packed with information that will help you in specifying fence for all kinds of installations. It's both a catalog and a specification manual . . . illustrating many types and uses of Anchor Chain Link Fence . . . picturing many prominent industrial and institutional set-ups . . . containing detailed structural diagrams and specification tables.

The four exclusive ANCHOR features are detailed in drawings and photographs: *Deep-Driven Anchors*, which hold the fence permanently erect and in line in any weather; *Square Frame Gates*, amazingly free from warping and sagging; *Square Terminal Posts* and *U-Bar Line Posts*, which increase strength and durability.

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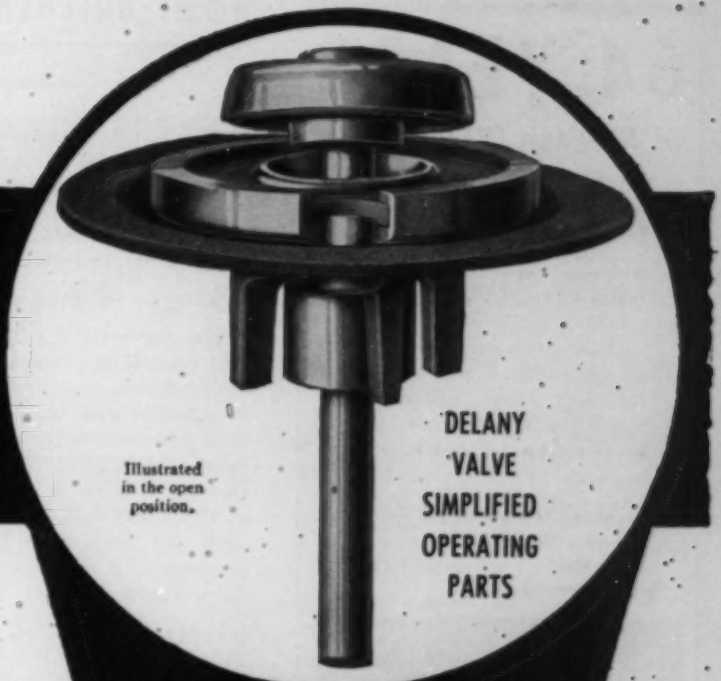

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We have achieved this end.

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HOME BUILDERS

(*Continued from page 160*)

emphasized the fact that the interest of the prefabricator was not counter to the methods and principles of the average on-the-site builder, and that prefabricated houses would still require local management and labor for completion.

Materials Draw Crowds

The numbers of manufacturers who participated at considerable expense in the exposition, and the swarms of visitors who assiduously studied the exhibits, were a measure of the keen desire on the part of the former to acquaint the builders with their products, and on the part of the latter to familiarize themselves with any new developments and improvements that had taken place during the war years.

Utility Core Popular

The product which most nearly approached the kind of improved engineering technique that it had been hoped might appear in profusion at this first postwar exposition by manufacturers was the *Ingersoll Utility Unit*. Although the unit has received considerable publicity in recent months, this was the first opportunity most of the builders had actually to see it. The exhibit attracted the most attention and the greatest amount of comment of any single display at the show. In the main exhibition hall at the Stevens a scale model of the unit was to be seen, together with drawings showing typical installations. At the nearby Congress Hotel additional space had been taken to accommodate a full-scale unit and models of the twelve houses, designed by prominent architects to show the adaptability of the unit to various plans, which the Ingersoll Steel Division of Borg-Warner Corp. is presently

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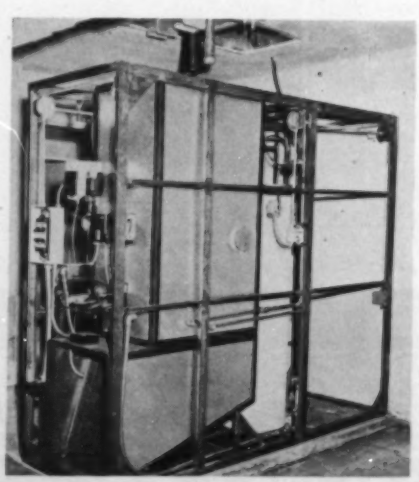

Mechanical core: Ingersoll Utility Unit

For Automatic Firing . . .

MILLS BOILERS *take the lead!*

For years H. B. SMITH "MILLS" boilers have been acknowledged as the leaders in their field. Now, more and more engineers are coming to realize the reasons *why* these units are uniquely suited to installations where top performance with oil, gas or stoker is a No. 1 requirement.

Here are just a few "Mills" exclusive features. Think them over carefully before selecting a boiler for that important job you are figuring now.

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- ✓ *MORE prime heating surface* than any other boiler of comparable physical dimensions.
- ✓ *MADE of rugged cast iron* for long service, low maintenance.
- ✓ *HEADER TYPE CONSTRUCTION* minimizes possibility of mid-season breakdown.
- ✓ *CONVERTIBLE* from one fuel to another both easily and inexpensively.

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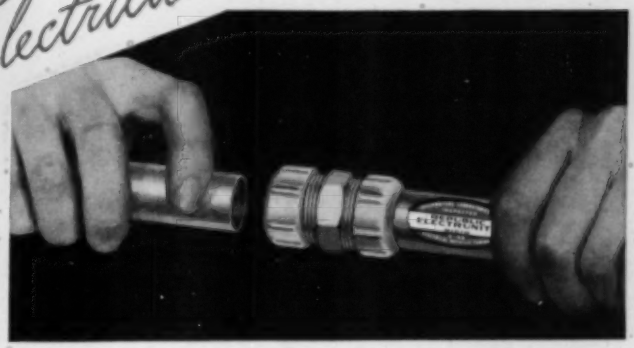

No threads to cut . . . no lines to turn . . . when you use modern ELECTRUNITE E.M.T. (Electrical Metallic Tubing)—the lightweight, easy-to-install raceway that keeps job schedules on time. This simple compression-type fitting is quickly and easily tightened.

ELECTRUNITE E.M.T.—the Streamlined Raceway Combines Convenience and Light Weight with Safety

Convenience . . . light weight . . . safety . . . these are three important reasons why more and more electrical contractors prefer to use Republic ELECTRUNITE E.M.T. Consider these facts:

CONVENIENCE

ELECTRUNITE E.M.T. is *threadless.* Hence it eliminates tedious thread-cutting. Two simple compression-type fittings—easily tightened without turning the tubing—make strong, watertight joints that will not work loose. Inch-Marking—an *exclusive* ELECTRUNITE development, consisting of easy-to-read inch and foot marks on every length—greatly increases cutting and bending accuracy.

LIGHT WEIGHT

Because it requires no excess metal to serve as a base for thread-cutting, ELECTRUNITE E.M.T. is much lighter than ordinary threaded-type conduit. Thus, it is easier to handle—especially in cramped, hard-to-reach or overhead installations.

SAFETY

The wall thickness of ELECTRUNITE E.M.T. was not arrived at by guesswork. It was carefully and scientifically determined by Underwriters' Laboratories as being adequate to provide necessary electrical and mechanical protection throughout the system. Moreover, ELECTRUNITE E.M.T. is approved by the National Electrical Code for exposed, concealed and concrete slab construction.

Yes, consider these facts—investigate the many other advantages of ELECTRUNITE E.M.T.—and you, too, will agree that you can't beat this modern electrical raceway. For complete information, see your ELECTRUNITE Distributor, or Republic Steel and Tubes Division Representative.

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